JOURNAL of GEOGRAPHY

for Teachers *of*
ELEMENTARY,
HIGH SCHOOL
and COLLEGE
GEOGRAPHY

Volume LVIII
February, 1959
Number 2

PUBLISHED BY
A. J. NYSTROM & CO.
THE NATIONAL COUNCIL FOR GEOGRAPHIC EDUCATION
THOMAS FRANK BARTON, EDITOR

Outstanding McGRAW-HILL Books

New Second Edition

ESSENTIALS OF GEOGRAPHY

By OTIS W. FREEMAN, State Teachers College, Indiana, Pennsylvania; and H. F. RAUP, Kent State University. In Press

The revision of this successful introductory text has been rewritten, rearranged, and updated to include all the recent advances in geography. Printed in a new, distinctive format, it covers the principles of geography, and affords a brief survey of the continents, with emphasis on the human relationships in different environments. Principal physical aspects of the earth as a planet, and the varied environments which it provides for the habitat of man are expertly described. All statistics are up to date and a new glossary of technical terms is included. Numerous maps, diagrams, and photographs illustrate the text, and practical questions and problems, chapter summaries, and study outlines supplement the text material. A *study guide-workbook* will also be available.

WORLD GEOGRAPHY

By OTIS W. FREEMAN, State Teachers College, Indiana, Pennsylvania; and JOHN W. MORRIS, University of Oklahoma. 623 pages, Text Price $7.95

The author-editors and fourteen noted specialists have prepared this handsome new text which supplies definitive information about the geography of specific areas and for nations of the world. Set in two major divisions—Eastern and Western Hemispheres—it shows how essential world geography is in understanding the problems, policies, and actions of different countries. Each chapter discusses the physical and cultural environment for an area as a whole, followed by a discussion for each country. "In Perspective" sections summarize the important ideas discussed and call attention to the principal area problems and the historical and future significance of the area. The STUDY GUIDE FOR WORLD GEOGRAPHY by Professor Morris ($2.00) . . . student oriented and keyed to the accompanying text . . . is also available.

WEATHER AND CLIMATE

By CLARENCE E. KOEPPE, formerly, San Diego State College; and GEORGE C. DeLONG, Eastern Michigan College. 352 pages, $7.50

A brief, yet complete, non-technical treatment of meteorology and climatology for geography departments of colleges and universities, requiring no mathematical or scientific background. It covers weather principles and processes, including the nature, extent, and composition of the atmosphere, weather elements, atmospheric circulation, air masses and fronts, and weather maps and forecasting. All recent advances, the effects of climate on life, health, and economy are noted.

ASIA'S LANDS AND PEOPLES

By GEORGE B. CRESSEY, Syracuse University, Second Edition. 615 pages, Text Price $8.95

A thoroughly revised edition of a work that geographers everywhere regard as *the* definitive, comprehensive treatment of the physical environment and human problems of Asia, with special emphasis on China, Japan, the entire Soviet Union, and India. Separate chapters and rewritten material deal with such new countries as Korea, Pakistan, Israel, and Indonesia. All maps have been revised or redrawn to show new boundaries, and almost 100 new photographs are included.

SEND FOR COPIES ON APPROVAL

McGRAW-HILL BOOK COMPANY, INC.

330 WEST 42nd STREET, NEW YORK 36, N. Y.

Mention the JOURNAL—It Assures Service

The JOURNAL *of* GEOGRAPHY

CONTENTS FOR FEBRUARY, 1959

Articles

Geography Vs. the School and You. By John W. Morris 59

Dr. Morris, Professor of Geography, The University of Oklahoma is the author of several elementary and college texts and numerous articles. After serving as Secretary for the National Council for Geographic Education, he is now Vice President and President Elect of the organization.

Coal Strip Pits in the Northern Appalachian Landscape. By George F. Deasy and Phyllis R. Griess 72

Dr. Deasy and Dr. Griess are Professor and Associate Professor, respectively, in the Department of Geography of The Pennsylvania State University. Both have written extensively on the geography of the Pennsylvania bituminous coal industry, and are two of the co-authors of the recently published textbook *The World's Nations*.

Log-Rafting in Louisiana. By George A. Stokes 81

Mr. Stokes is Assistant Professor in the Department of Social Sciences at Northwestern State College in Louisiana. He has a Masters Degree from Louisiana State University.

Elementary and Junior High School

The Direction of High School Geography. By Clarence Woodrow Sorensen 89

Dr. Sorensen is Associate Profesor of Geography, Illinois State Normal University at Normal. He is author of both articles and elementary geography texts.

Use of Elementary School Projects in the College Classroom. By Thomas G. Gault 92

Let's Go Fishing—Perhaps We Will Catch a "Geography Eel." By Mrs. Laura von Aschwege. 97

Moon Maps. By Catherine I. Bahn 98

Miss Bahn is head of the Acquisitions Section of the Map Division, Library of Congress.

General

Geographic Materials Received 102, 104

Contents of the JOURNAL are indexed regularly in the *Educational Index to Periodicals*.

Authors alone are responsible for opinions and statements in the JOURNAL.

PRINTED IN THE U.S.A.

The JOURNAL *of* GEOGRAPHY

THOMAS FRANK BARTON, *Editor*
GEORGE J. MILLER, *Assistant Editor*
Indiana University, Bloomington, Indiana

Associate Editors

EARL B. SHAW, State Teachers College, Worcester, Mass.
NEVILLE V. SCARFE, University of British Columbia, Vancouver
R. S. FUNDERBURK, Central Washington College of Education, Ellensburg
MARY VIOLA PHILLIPS, University of Pittsburgh
ZOE A. THRALLS, University of Pittsburgh
RUSH J. WARMAN, Clark University
CLYDE F. KOHN, University of Iowa
OTIS W. FREEMAN, State Teachers College, Indiana, Pennsylvania
MAMIE L. ANDERZHON, William Beye School, Oak Park, Illinois

National Council for Geographic Education

ADELBERT K. BOTTS, *President*, State Teachers College, Trenton, New Jersey
LORRIN G. KENNAMER, *Secretary*, University of Texas, Austin, Texas

SUBSCRIPTION TERMS

The subscription price is $4.00 a year payable in advance. The price of single copies is 50 cents. Postage prepaid on subscriptions from the United States and dependencies Canada, and Mexico. All other countries in the Postal Union add for postage 45¢ on annual subscriptions (total $4.45), on single copies 5¢ (total 55¢). All subscriptions are payable in United States Dollars.

The JOURNAL is the official organ of the National Council for Geographic Education and is sent to all members. The annual dues, $4.00, are payable to the JOURNAL of GEOGRAPHY. Extra postage rates for copies sent to foreign countries should be added to the membership dues. Make all remittances payable to the JOURNAL OF GEOGRAPHY, in postal or express money orders or bank drafts.

Send manuscript and books for notice or review to the Editor.
Send orders for back numbers to JOURNAL OF GEOGRAPHY.

Published monthly except June, July and August

PUBLICATION OFFICES: 450-454 AHNAIP STREET, MENASHA, WISCONSIN

Business Correspondence, Membership Dues, and Subscriptions may be sent to Publication office or to

A. J. NYSTROM AND COMPANY
PUBLISHERS, JOURNAL OF GEOGRAPHY
3333 ELSTON AVENUE, CHICAGO 18

Second-class postage paid at the Post Office at MENASHA, WISCONSIN, under the Act of March 3, 1879.

JOURNAL OF GEOGRAPHY PRIZE TO AUTHORS

Annually a Geographic Education Prize of $25.00 is awarded for outstanding articles published in the JOURNAL. In the even numbered years the prize is for the Elementary level and in the odd years for the High School level.

The World's Nations

by George F. Deasy *all of*
Phyllis R. Griess *Penn St.*
E. Willard Miller *Univ.*
Earl C. Case, Univ. of Cinn.

An economic and regional world geography.

THE WORLD'S NATIONS is indeed a geography instructor's textbook. Because of its accurate, interesting, and challenging contents, its numerous, apt illustrations, and twin themes of world people and their varied activities in determining geographical settings, the book quickly becomes a student's textbook.

In it, both teacher and student find useful and precise tools of analysis and interpretation of phenomena which ordinarily strain one and confuse the other. The text permits joint discovery of the world as man's home and the activities necessary to supply myriad needs and wants from local, regional, and global sources and an appreciation of the forces that nations have or have not in the only areas and arenas in which they must satisfy the groups of which they are made.

I therefore, recommend its adoption and use in colleges and universities which are trying to equip students for undertaking the expanding world of politico-economic relationships.

Samuel E. Warren, Texas College

Ideal for textbook use & for reference

Geography of Commodity Production

by Richard M. Highsmith, Jr.
J. Granville Jensen
Oregon State College

For economic geography and world resources.

The authors have produced a valuable new textbook in GEOGRAPHY OF COMMODITY PRODUCTION. This is much more than a traditional tabulation of data with reference to production of crops and minerals. The book recognizes that many social and technological developments must be understood together with the earth setting if one is to gain any real insight into commodity production and distribution. It thus seems most appropriate to note specific references to government policies, capital demand, marketing procedures, and population structures. As a textbook and reference book, **this publication fills a real need.**

Clarence W. Sorenson,
Illinois State Normal Univ.

I am especially impressed by the authors' clever use of maps, photographs, and diagrams . . . resulting in a more complete understanding of the nature of economic geography.

J. S. Haupert,
Sacramento, State College

Series Editor, Dr. Clarence F. Jones
Northwestern University

examination copies available

J. B. Lippincott Company

333 W. Lake St. College Dept. *Chicago 6, Ill.*

SUMMER SCHOOL IN GEOGRAPHY

June 28-August 7, 1959
At Stanstead College, Stanstead, P.Q., Canada

Special Program Studying The Netherlands and Soviet Union

Directed by J. Brian Bird, Geography Department, McGill University

- Study critical areas of world strife in their geographical setting. Enroll in this six-weeks vacation summer school for professional teachers and students of geography and for specialists in the Armed Forces. Instruction at graduate and undergraduate levels; academic credits; special programme for teachers.

- Staffed by experts from Canada, Great Britain, Switzerland and New Zealand. Lecturers: J. Brian Bird, Hans Boesch, F. Kenneth Hare, Theo Hills, Svenn Orvig, J. T. Parry, L. Dudley Stamp, Bogdan Zaborski.

- Courses: Man in the Northland, The Arctic Environment, Eastern Asia, Soviet Union, Tropical Lands, Field Work, Physiography, Meteorology and Climatology, Economic, Historical and Agricultural Geography.

- Comfortable accommodation in modern co-educational Stanstead College amidst beautiful country near U.S. border.

- Transferable credits for university degrees and teachers' certificates.

Tuition: $145.00 **Registration Fee: $35.00 (ALL CANADIAN FUNDS)** **Board and Residence: $125.00 (OPTIONAL)**

McGILL UNIVERSITY . . . *Geography Summer School*

Enquiries to: **Director, Geography Summer School, McGill University, Montreal, Canada**

The Century Earth Science Series

Essentials of College Geography

By *C. Langdon White, George T. Renner,* and *Robert T. Novak.* Although this brief geography text represents the general philosophy of the several editions of the original White and Renner text, COLLEGE GEOGRAPHY, it is essentially a new book streamlined and simplified somewhat to meet the needs of students who are to have only one short course in the subject. Its purpose is to make the student place-minded, resource-minded, and conscious of the relationships between the earth environment and the problems of human living through the simultaneous study of man and place. Only those facts which are considered essential to a better comprehension of the principles of geography are included. The text is illustrated with maps, diagrams, and photographs.

580 pages, $6.00

Directed Studies in Introductory College Geography

By *George T. Renner* and *Hugh Campbell Brooks.* This workbook is designed to impart certain basic information to the student as well as to stimulate him to think for himself. It is made up of 29 exercises: 14 on climate and 15 on other elements of man's geographical environment. There are 3 world climate maps and each climate exercise has 1 or 2 climate diagrams. Although planned especially to accompany COLLEGE GEOGRAPHY by White and Renner, and ESSENTIALS OF COLLEGE GEOGRAPHY by White, Renner, and Novak, this workbook can be used in conjunction with any other standard textbook for introductory courses in the subject.

167 pages, illustrated, $2.36.

Principles of Political Geography

By *Hans W. Weigert, Henry Brodie, Edward Woods Doherty, Eric Fischer, Dudley Kirk* and *John R. Fernstrom.* This text presents a penetrating analysis of world problems and power relations which arise from the interrelationship and blending of political and geographical factors. The facts are stated and the problems posed without attempting to provide easy answers to the latter. The treatment is primarily functional. Following an introductory chapter on the meaning and scope of political geography, the text discusses in turn: the spatial factors in political geography; the human and cultural factors; and the economic factors. Included in the book are 115 maps, all of which have been especially prepared for this volume.

723 pages, illustrated, $7.95

Appleton-Century-Crofts, Inc.
35 West 32nd Street, New York 1, New York

Where Is The Teacher In This Picture?

We see no teacher—yet the pupils are learning! Yes, these children are developing fundamental globe-reading skills without the aid of a teacher—assisted only by a Nystrom globe and a set of the new *Fun with the Globe* cards.

FUN WITH THE GLOBE

These globe-reading activity cards stimulate the child's natural desire to explore, discover and use important facts.

They are self-directing and self-testing.

Designed for group study, three or four pupils can work together with one set of cards, sharing and exchanging ideas and information.

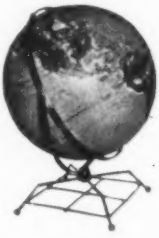
No. FG1
Set I—$1.65

Two spiral-bound sets are available. Set I contains 30 pages; Set II, 24 pages. Each card measures 10 x 5 inches.

PICTORIAL RELIEF GLOBES

To complement *Fun with the Globe* cards, we recommend Pictorial Relief globes. Children are naturally attracted by these features: startling three-dimensional effect achieved by the hill-shading technique; beautiful merging colors showing elevation changes; large, bold, easy-to-read type. Both 12-inch and 16-inch Pictorial Relief globes are available.

The new and unique Gyromatic mounting (see illustration) is ideal for pupil use. This mounting is preferred because of its smooth "gyro-like" action—the ease with which any area on the globe can be brought into view and studied.



No. GRL 124
12-inch—$20.75

For complete descriptions and prices, write today for free brochure: **JG2-59**

A. J. NYSTROM & CO.
3333 N. Elston Avenue
Chicago 18, Illinois

Mention the JOURNAL—It Assures Service

The JOURNAL *of* GEOGRAPHY

Copyright 1959, by the National Council of Geographic Education

VOLUME LVIII FEBRUARY, 1959 NUMBER 2

GEOGRAPHY VS. THE SCHOOL AND YOU*

JOHN W. MORRIS
University of Oklahoma

As we look at the theme of this meeting "How can we improve the status of geography in the schools" one wonders about the scope of the meeting for the theme is certainly one that could be discussed for many days. Each of you has many ideas on this subject; perhaps some of you are convinced that if the formation of the curricula were turned over to you, you could cure the numerous ills and settle the problems for all times. However, the many problems facing the field of geography, and the teaching of the subject are not new nor are they uniquely American.

I would now like to discuss with you four problems. These problems appear simple, and I suspect that each of you will have your answers as soon as they are stated. Upon consideration, however, the answer may not be as direct, or as simple, as it first appears. The answers to most of these problems should be decided upon by you, the Professional Geographer, or by you with the aid of a Professional Educator.

PROBLEM 1—SUBJECT MATTER CONTENT TAUGHT AT THE VARIOUS GRADE LEVELS

I am told by the writers of social studies texts for the elementary schools that we must start with what the child knows and build upon his experiences. Also that we must prepare the child to live better in the area in which he lives. Thus, most social studies or geography curricula start with the home community in the third grade, study lands and peoples by samples in the fourth grade, the Americas in the fifth, and the rest of the world in the sixth. In junior high school there may be a course in general world geog-

* This paper was presented as the banquet address of the East Lakes Division of the Association of American Geographers on October 10, 1958 at Indiana University, Bloomington, Indiana.

raphy and sometimes, the high schools offer courses in economic, political, or world geography. Many courses of study and curriculum committees put a course in state geography in the fourth grade or junior high school. There are many variations to these ideas, however, for frequently a course dealing with Asia, Latin America, or some other area may be given in the junior high school.

I would now ask you the question, "Where is the child's home community?" A visit to any classroom will probably show that the children in that class were born in many different parts of the United States or even many foreign countries. In this day of shifting population the neighborhood in which the child is presently living may be the least familiar of many areas to him, and actually may be only a temporary home; therefore, the child may have no experience whatsoever to build upon so far as the local community is concerned.

Modern communication, especially the television, has opened the whole world to all people regardless of age.

> Watch almost any child-centered television program. It is typically focused on some spot remote in terms of space from what we have traditionally thought of as the tight circumference of the child's world. This changing pattern of experience surely has meaning for the future of geographic education. For example, must we continue to devote the primary school geography program almost exclusively to the local community? Today, the local community of even the most unsophisticated second or third grader has expanded far beyond his immediate neighborhood. Other neighborhoods, other communities, distant in space, have become more of a reality to these youngsters than the close-at-hand. Can we not, then, find ways to bring to their classroom experiences an understanding of more of the world than we have done in the past.[1]

Also we must remember that the boys and girls now in the grade schools may spend part of their lives as citizens of the twenty-first century as well as the twentieth. Should it not then be one of our chief concerns in the teaching of geography to make certain that the pupils "understand geography as a study of living things—of people who live and of landscapes which actually exist."[2] In teaching such as this it will be necessary for both the teacher and the textbook writer to keep in mind that geography is constantly changing. Kimble, in his article, "Expanding Horizons in a Shrinking World," makes the point so effectively when he states in his first

[1] Phillip Bacon, "Population Growth and Its Impact on Geographic Education," *Journal of Geography*, Vol. LVII (April, 1958), p. 117.

[2] G. H. Gopsill, *The Teaching of Geography*, Macmillan and Company, New York, 1956, p. 8.

sentence, "Geography isn't what it used to be."[3] Shaw also brings out the idea that we must consider the permanency of change.[4]

The question of what geography, or geographical concepts, should be taught at each grade level is also getting the attention of the Professional Educator. In California many schools are reworking their courses of study to adjust to the changing times. Cincinnati has recently issused a new high school course of study in geography. Kenworthy has suggested such possible topics as the following around which geography courses may be organized: The Earth as the Home of Man, Two an One-half Billion Neighbors, Ways of Living around the World, and An Interdependent World.[5]

The question of what should be taught at any given time is indeed a difficult one. In 1910, Professor Whitbeck and six other geographers attempted to compile a list of 25 American cities as well as lists for Europe, Asia, and other areas.[6] It was decided that these were the cities the students should know in detail, and the cities were ranked accordingly. The list placed Galveston and Lowell higher than Baltimore, Cincinnati, or Indianapolis and did not include either Houston or Los Angeles. Moscow was not included in the European list nor was Karachi considered important in Asia. Since geography, whether physical, economic, or cultural, is constantly changing, the course of study must likewise be a constantly changing one. Would it not be true to say that geography is more deeply influenced by the numerous mechanical inventions and their associated social adjustments than any other subject? Is not the South Polar area one of much greater significance to the boys and girls of today than it was to their parents because of the vast improvement in machinery, fuels, clothing, and numerous other items? How simple then is the problem of what geography should be taught to the youth of today to prepare him to live in the coming age of the twenty-first century?

PROBLEM 2—TRAINING OF TEACHERS

The solution to this problem will depend somewhat on the an-

[3] George H. T. Kimble, "Expanding Horizons in Our Shrinking World," *Frontiers of Knowledge*, Lynn White (Ed.), Harper, New York, 1956, pp. 116-131.

[4] Earl B. Shaw, "Forces Contributing to Changes in Geographical Education," *Journal of Geography*, Vol. LVII (February, 1958), p. 55.

[5] Leonard S. Kenworthy, "International Understandings Begin Early," *Grade Teacher*, Vol. LXXV, No. 8 (April, 1958), p. 44.

[6] R. H. Whitbeck, "Where Shall We Lay the Emphasis in Teaching Geography," *Education*, Vol. XXXI (February, 1911), pp. 108-116.

swer to problem 1. Certainly the training of a specialist in geography would be different from the training of one who is to teach in the broad field of social studies. Also, the training of the teacher for the elementary school will be different from that of the high school instructor. All of us probably agree, however, that whether the teacher is to be trained for the elementary or high school field, or to be trained as a specialist, he will need a variety of courses in both the natural and social sciences. Since most of the work in the public schools is taught by people who have had their training in the social studies as a whole, let us consider that point of view.

Regardless of how important we think geography is, it constitutes only one part, often only a small part, of the training required in the social studies field. As Professional Geographers we realize that geography occupies a middle ground between the social sciences and the physical sciences. Since geography finds its facts of the physical environment in the area of the natural sciences and its facts of human activities in the area of the social sciences, one of its chief contributions to the field of education is the interpretation of the relationships existing between these two groups of scientific facts. In many instances, however, the Professional Educator does not know, or does not realize, or does not care that such a relationship exists. All the Director of Teacher Education may know about geography, or most of the other social studies, is the few impressions he gained as a grade school or high school student. To him geography still may be the same "task" of uninspired statements as it was years before. Thus, one of the first improvements to be made in the training of teachers of geography or the social studies will have to be the education, or reeducation, of advisors, directors, deans, and others who direct the training of teachers.

In the self-contained classroom of today's elementary school, the teachers are supposed to know enough about each subject to do a good job of instructing. In such a situation it is necessary for the teacher to keep in mind that first of all she is teaching children geography, or social studies, or whatever the subject may be, but she must also understand that she is teaching geography, or social studies, to children. How interesting and inspiring she makes this field of study will depend upon her knowledge of the subject. Usually the geography part of the social studies program is the most fascinating, or the least attractive, part of the school curriculum, depending on the teacher and the books used in the teaching of it.

In most teacher training institutions one or two courses in geography are now required for an elementary teachers certificate. There is, however, no agreement as to what these courses should be. All too often the student selects the course because of the time it is offered, or because he believes it will be easier than some other. Thus, the courses selected could be Latin America and Asia, or some other such combination. Since, in the elementary school, the entire world is to be studied with emphasis being placed upon the United States, the courses becoming more and more accepted are world regional geography and the geography of Anglo-America. Granting that these courses are good, it is to be hoped that the teacher will also get an understanding of some of the principles and physical factors involved.

During the past summer I had in my classes some 30 teachers who were taking their first course in geography altho they had been teaching from two to 40 years. In this group I found some who were 1) surprised to find that the top of the map is not always north, 2) disturbed by the fact that in the so called prevailing westerly wind belt the winds could come from any direction, 3) amazed by the numerous recent changes in the political map of the world, 4) convinced that the geography of the United States had not changed since 1492, and 5) astounded to learn that the United States was not completely self-sufficient in all goods and services of every eype. To most of these people the idea of interdependence was an entirely new thought. These people were not dumb. They simply had had no training in geography, or many of the other subjects that the elementary teacher should have. They are so busy with their classroom activities, and the numerous subjects they have to teach, that they do the best they can by using ideas or concepts gained in their own grade school or high school days. Who, then, was responsible for the type of instruction these people were giving in their social studies classes?

> There is basically nothing wrong with the theory of our social studies program in the schools. The error is in the preparation and administration of the program. . . . However, let me hasten to say that such a program of integrated school work can only be carried out successfully by a teacher who has had a thorough background in subject matter as well as in methods. It is the function of the hiring superintendent to investigate the content background of his prospective teachers as well as their training in the various methods courses.[7]

[7] Monica Kusch, "What Has Happened To Geography?" *American School Board Journal*, Vol. 132 (May, 1956), p. 35.

May I add that I think it is also the responsibility of the college advisor to insist that the student take content courses.

When compared with his colleagues in the elementary school, the high school teacher of social studies is indeed a specialist. The certification program in each state requires that the high school teacher have so many hours in the field for which the certificate is granted. Some states specify the minimum number of hours in each subject necessary to secure a social studies or, in special cases, a geography certificate. In others, however, the regulations simply state a given number of hours of college credit necessary to teach social studies, then let the college make its own regulations. In the later case social studies certificates have been issued to people who have had only courses in history and government. Yet these same persons have been assigned classes in geography, economics, or some other field in which they have had no training. Frequently, in junior high school, a course called general social studies is given. In most instances such courses have degenerated to a study of topics which the instructor is best able to teach. In such cases, then, much of the study of geography is lost for the teacher does not feel competent to undertake the task of teaching a topic about which he has little if any knowledge.

Most teachers, regardless of grade level, try to do a satisfactory teaching job. Two years ago the University of Oklahoma was asked to build a certificate program for high school social studies teachers. Fifty high school teachers were asked to participate in the project. All had teaching experience, ranging from one to 25 years, and at least a bachelor's degree. The subjects to be included for consideration in the program were history, government, sociology, economics, and geography. After a discussion of the problem the teachers asked that anthropology also be included. It was decided by this group that to secure a social studies certificate the individual must have 54 semester hours of work in the above fields with required hours in each field as follows: history 18, government 6, economics 6, geography 6, sociology 3, and anthropology 3. The remaining 12 hours are to be electives so that the student can strengthen the field of his choice. Most students take at least one more course in geography and two more courses in history. The two three hour geography courses that are required are principles and either world regional or political. The most popular elective course is the Historical Geography of the United States.

Certificate requirements such as these do not make specilists,

but they do give a broad background for the teaching of high school social studies. By careful selection of courses each student can complete a major in history and a minor in any one of the fields which will permit him to enter graduate school and start work in the subject of his choice. Each student is at least getting an introduction to geography and learning something of its relationship to the other social studies. "Any social science curriculum without geography is a romance in the land of nowhere."

Another factor that has great influence upon the training of both high school and elementary teachers is the example that we, as college teachers, set for them. The first impressions that a student has about a subject are usually based upon impressions formed during the first week or so of the course. We, as college teachers of geography, need to remember that the student is in a new field. We must bring ourselves to his level, cause our enthusiasm for the subject to penetrate his resistance for that which he does not understand, and bring him to the level where he apprcieates the world in which he lives.

> In the teaching of geography the fundamental condition of success is that the teacher has so thoroughly mastered the subject himself, and takes so much real interest in it, that he can speak to his pupils about it, not in set phrases of a class book, but out of the fullness of his own knowledge, being quick to draw his most effective illustrations from the daily experiences of those to whom he addresses himself.[8]

Too many college professors consider the instruction of beginning students a bore. They do not prepare their lessons the way they should, frequently using hashed-over notes from some seminar or graduate lecture. The undergraduate student is very seldom interested in the intensive research the instructor is doing, even if it is extremely important. Neither is he interested in the statistics quoted except as they point to the objective to be accomplished. Try teaching a first course in geography some time without using notes. Put some new thoughts about old ideas into your course. If you have not read the article, "Geographical Thought in the United States," by Dr. Stephen B. Jones do so. Then think seriously about the following statement and apply it to your teaching.

> Concentrating on areal aspects and areal relations, geographers have neglected to formulate new generalizations about the processes by which human activities are related to their environment. . . . What is lacking is a general formulation of the process of human ecology. This need goes far beyond the borders of geography in the professional

[8] Richard Elwood Dodge and Clara Barbara Kirchway, *The Teaching of Geography in the Elementary School*, Rand McNally and Company, Chicago, 1913, p. iii.

sense. All the social sciences need a new awareness of the ecological aspects of human life, for all social sciences are ecological, all in a sense are "earth sciences," all the men and things and actions they study are related to the planet earth."

Problem 3—Text Books

In far too many classes the chief source, frequently the only source, of information is the text book. Generally elementary teachers have such a small amount of information about a given subject that they are in no position to evaluate the accuracy of content material of a text in even one of the social studies fields let alone a text which brings all fields together. High school teachers should be better qualified to perform this task, especially if they have a major field of study in one of the content areas. Too often, however, the text books used in the public schools are selected by school administrators, supervisors, or boards of education. The advice of teacher specialists may be sought, but there is no assurance that it will be followed. Sometimes a salesman will have far greater influence in getting a book approved than will the teachers or the subject matter specialists that have been asked to evaluate the texts.

Most states now have free text book laws whereby the state is to furnish all the texts needed. Since this involves public money on a state wide basis, state politics often become involved. When such laws were made the provision was generally included that texts for so many subjects were to be adopted each year. Usually no book was to be used longer than five years. Many states, tho, have failed to appropriate enough money to buy the number of books needed. In other instances insufficient funds have been made available for replacements at the end of the specified period. When it becomes necessary to cut the budget the first cuts are frequently from the textbook fund. Thus, today, there are many schools using geography texts or social studies books that are entirely out of date. How valid are the statistics, maps, graphs, descriptions, and pictures in geography books printed 10 to 12 years ago? How much good is being accomplished by students studying pre-World War II geography texts? Such books are still being used in some of our larger cities.

On what is a text book to be judged? The following three points should receive first consideration: 1) authorship—the accuracy of

*Stephen B. Jones, "Geographical Thought in the United States," *Perspectives*, No. 12, 1955, p. 76.

the book will depend on its author or authors; 2) readibility—the book should be in the language of the level at which it is going to be used; and 3) illustrations—maps, graphs, pictures must be as up to date as possible.

The problem of authorship of an elementary or high school text book is one of grave concern. A text in the broad social studies field should, by the very nature of the subject, have more than one author—a specialist in each of the subjects to be considered and a specialist in education who understands vocabulary and reading. Only by such a combination can one guarantee accuracy of concepts and facts. There are many examples of social studies texts that have been prepared by professional educators who have had no courses in geography and few courses in history. Also instances where professional geographers have permitted their names to be used on a text prepared by education personnel and ghost writers without the geographer having seen the material prior to publication. In such texts one usually finds broad generalizations, inaccurate facts, ideas long since discarded by the specialists in the field, and a maze of hazy assumptions that result from carelessness or ignorance. James, in the current *Yearbook* of the National Council for the Social Studies, states it this way:

> Yet social studies classes in 1958 are taught that the world is divided into just those zones of climate (torrid, temperate, polar) first suggested some four centuries before Christ and proved to be inadequate thirteen centuries after Christ. No modern world geographer would mention these zones except as a part of the history of geography. A generalization in any field must be abandoned if it obscures what teachers want to teach, for it is, then, a bad generalization.[10]

Since text books to a large degree control the material taught in an elementary school, since text books are the chief tools used by the schools, the quality of learning depends, to a great extent, upon the understandings pupils gain from these books. Put a poor text in the hands of a poorly trained teacher and the results are usually tragic. Add to this the additional problem of an integrated course and you get the results described by Kusch.

> This integration is, in part, the reason for the lack of geographical knowledge. The tendency has been to correlate all geography with history, with the result that much geography, and I dare say much history, is hazy because some phases of each subject do not lend themselves to a combined teaching program. After interest has been stimulated, the alert and well informed teacher will attack some problems as a separate phase of geography or a separate part of history, as the case may be.[11]

[10] Preston B. James, "New Viewpoints in Geography," *New Viewpoints in the Social Studies*, Roy A. Price (Ed.), National Council for the Social Studies, 1958, p. 53.

[11] Kusch, op. cit., p. 36.

Too many professional geographers are not interested in the preparation of texts for the public schools. In some instances, geographers writing, or working with teams of writers, in the elementary or high school field have been criticized by their colleagues for "wasting time" and not doing research. It is quite possible that much of the geography we think should be taught slipped thru our fingers because we let less experienced individuals prepare the books. Many of the old elementary texts should never have been put into the hands of a grade school pupil. The education expert can make the book readable and understandable for the level desired but he can seldom give it the meaning needed.

Geographers, above all other people, should realize the value of illustrative material. Yet, many of the latest text books contain pictures which are not representative of the area being discussed and graphs made from statistics that are old. Frequently illustrations and text material do not agree. For example, one widely used high school geography book has a graph of coal production by states with the bar for West Virginia indicating that that state produces more coal than any other. On the same page, however, is a sentence stating that Pennsylvania leads in coal production. In another part of the book are pictures of Hoover Dam and Grand Coulee Dam. Under one picture is the statement that it is the largest dam in the world; under the second picture is the statement that it is the greatest dam in the world. Most grade texts will have pictures of the windmills in Netherlands and snow igloos of the Eskimo. Surely more typical pictures could be used. One of the most widely used college reference books, printed in 1954, has in the front of it a relief map of the United States which shows Oklahoma divided into Oklahoma Territory and Indian Territory even tho such a division ceased to exist in 1907. During the past summer I had a hard time convincing a young man from Georgia that such did not now exist. Too many students, especially those in grade and high school, believe that no mistakes exist in text books.

Problem 4—Research in the Teaching of Geography

Many questions in the field of the teaching of geography will remain unanswered until a considerable amount of research has been done. True, numerous theses and dissertations have been developed about certain limited topics, but very little organized research with a definite educational-geographic slant has been undertaken.

Apparently most Professional Geographers are not at all interested in this line of research as is evidenced by the fact that for many years the National Council for Geographic Education has had a fund from which grants could be made for this type of work. During the past six years only two small grants have been awarded and only four applications for grants have been received. A few years ago A. J. Nystrom and Company established a fund for research in educational geography that is administered by the Association of American Geographers. So far only one grant has been made.

Here are just a few research topics that occur to me at the moment. The list could go on indefinitely for we actually have very little, if any, real research in geographic education.

1. What, specifically, do boys and girls at various age (or grade) levels understand regarding special concepts? What are the implications of these understandings for the elementary geography (social studies) program?
2. A series of validated tests needs to be developed to determine grade level placement of map and globe concepts. We have many opinions on when we should teach latitude and longuitude but we have nothing concrete on which to base our opinions.
3. On the high school level, it would be useful to run several controlled class experiments to determine whether the climatic or political regional approach is best for teaching world geography.
4. Experimentation is needed to determine the kind of geography appropriate for the primary grades. How much time should be devoted to the local community? Can "type studies" begin earlier than the 4th grade because of increasing global awareness on the part of children?
5. We need to run some controlled class experiments at the upper elementary and junior high school levels to test the topical *vs* the regional approach to geography. The results could have a real impact on the development of new text books.
6. Experiments might be conducted to determine the value, or lack of value, as well as to compare, the use of films, slides, TV, and still pictures in teaching geography at various grade levels.

7. A thoro study of the vocabulary of geography needs to be made. What specific terms should be introduced at each grade level? Also, how may they be taught effectively?
8. Research in the types of graphs and statistics that can be introduced at each grade level need to be carefully checked. Work with teachers of arithmetic along this line could be helpful.
9. What types of maps do the children comprehend with the greatest ease? Much work needs to be done in grading map symbols and in developing map reading at the various grade levels.
10. What means or methods may be used to teach place location functionally or effectively?

The big problem in geographic research is to get qualified teachers to tackle such topics. These problems are difficult.

What Can We Do?

With these four problems to think about, I would like to pose a question that pertains directly to us as professional geographers. What can we do about the situation? Since we are professional people, and since we have a common objective of improving the situation of geography in the public schools, I am going to state my ideas on this question very briefly. First, I think we should stop talking and griping and begin to do some very objective and concrete thinking about the situation.

Geographers have been able to work with people in business, industry and government to the mutual benefit of all concerned. Have we really tried to work with the people in professional education? As pointed out by Warman "there is an extraordinary dearth of educators who are also geographers." I hope not, but perhaps this statement could also be reversed. Actually, it is up to us to educate the educator about a geographical point of view. There is evidently a very wide mutual misunderstanding between these two groups of professional people. Most administrators, supervisors, and senior professors in the field of education received their training during the 1930's when geography was really a forgottened subject. Have you made any attempts to become acquainted with these people, to learn their points of view, and to discuss with them your point of view? Your job is actually that of selling, but be careful not to over sell or sell too rapidly. When these people gain a better understanding of the subject we will find a demand for our product. At the same

time, however, we must rid ourselves of the lack of understanding of the public school situation and correct our attitude toward professional education. Too frequently we, along with professionals in other academic fields, have charged that the education people repeat themselves, have no content in their courses, and waste the student's time while he is in class. At present I am not concerned whether these charges are true of false. I am concerned, however, that we have our own departments in such shape that these same charges cannot be leveled against us. I have found that the better the understanding between the two groups, the greater becomes the number of students studying geography. It is the new teacher going into the field that is going to give the greatest boost to geographic education, for in a few years this new teacher will become the supervisor, principal, superintendent, or professor.

SUMMARY

Now, may I summarize briefly. Four important problems—1) the material to be taught at various grade levels, 2) the training of teachers, 3) the text book situation, and 4) research in the problems of geographic-education—have been discussed briefly. Some of the varying phases of each problem have been pointed out, but generally no attempt has been made to solve the problem. It is my understanding that your meeting tomorrow will be a discussion about some of these problems plus many of the other critical items pertaining to the teaching of geography. I am certain that each of you has many ideas for the solution of these problems which all of us will be glad to receive. Thus, it is my hope that you will participate, and participate vigorously, during tomorrow's meeting. It is from such meetings as this that great good can come to the field of geographic education. In conclusion, I would like to remind you of a statement made by the late President Atwood.

> When, as teachers of geography, we survey the world conditions of today and consider the problems that this nation and other nations are attempting to solve, when we endeavor to move a little into the future and anticipate some of the problems which the children of today must almost certainly face; the responsibility which we must assume in training the children furnishes us with a wonderful inspiration. Each day's work should be guided by the hope that by human endeavor this earth may become a safer, better, and happier home for each succeeding generation. Remember our work is with and for the children; when they have been better trained, they will improve the living conditions in this world.[12]

[12] Henry J. Warman, *Geography—Backgrounds, Techniques, and Prospects*, Clark University Press, Worcester, 1954, p. 158.

COAL STRIP PITS IN THE NORTHERN APPALACHIAN LANDSCAPE[1]

GEORGE F. DEASY AND PHYLLIS R. GRIESS
The Pennsylvania State University

During the past 40 years the scars of bituminous coal strip mining have spread at accelerated speed across the eastern American countryside. A new land use pattern gradually has been imposed upon the preexisting complex. In certain parts of the country the strip pit has now become the most widespread and distinctive cultural element in the landscape.

In earlier decades, stripped surfaces were most extensive in the Eastern Interior Coal Fields, for bituminous coal stripping achieved original significant development there. Today, however, bituminous coal fields of the Northern Appalachian Plateau bear the most numerous stripping scars. Assuming an average production of stripped coal of 5,000 tons per acre,[2] and knowing the cumulative output of stripped bituminous coal from each state between 1914 and 1953 (Fig. 1),[3] computations show that approximately 150,000 acres have been converted by now into strip pits in some 75,000 square miles of coal-bearing territory in eastern Ohio, western Pennsylvania, and western West Virginia; and that approximately 136,000 acres have been turned into strip pits in the comparable sized coal-bearing lands of Illinois, southwestern Indiana, and western Kentucky.[4] Thus, on the average, some two acres of every square mile in the Northern Appalachian Coal Fields, and a slightly smaller acreage of every square mile in the Eastern Interior Coal Fields, consist of strip pits. Due to concentration of stripping operations within restricted sections of these fields,

[1] Field and library work upon which this study is based were supported by a grant from the Mineral Conservation Section of the College of Mineral Industries, The Pennsylvania State University.

[2] Such a figure is given in the following sources: A. Doerr and L. Guernsey, "Man as a Geomorphological Agent: The Example of Coal Mining," *Annals*, Association of American Geographers, Vol. 46 (1956), pp. 209-10; E. W. Miller, "Strip Mining and Land Utilization in Western Pennsylvania," *The Scientific Monthly*, Vol. 69 (1949), p. 94.

[3] Data from U. S. Bureau of Mines, *Minerals Yearbook*, volumes for 1914 through 1953.

[4] A small amount of this stripped land, perhaps one percent, has been restored by the mine operators and converted to a useful condition. With regard to the reclamation situation in Pennsylvania, see Miller, *op. cit.*, pp. 97-103.

stripped acreage figures per square mile locally are much greater.

Doerr and Guernsey, in their recent paper in the *Annals*,[5] focused attention on certain macro- and micro-aspects of coal strip mining as it affects the landscape. They delimited, on a gross scale, those areas within the United States wherein coal strip mining has significantly modified the preexistent surface. Descending to the

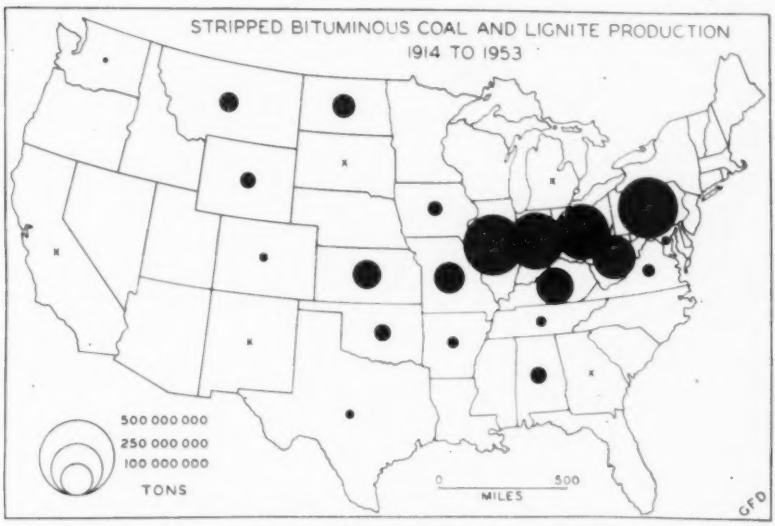


FIG. 1. Cumulative stripped bituminous coal and lignite production in the United States, 1914 to 1953, by states. Includes a very small amount of anthracite coal produced in a few western states, but excludes Pennsylvania anthracite. Total production in the country during the 40-year period exceeded 1,820,000,000 tons. Data from U. S. Bureau of Mines.

micro-level, they then presented details of terrain modifications that occur within individual strip pits, describing among other features the arrangement of spoil-ridges and spoil-valleys within the pits, height and spacing of spoil-ridge crests, angle of spoil-ridge slopes, height of the high walls, dimensions of trench ponds, and similar minutiae of the pit surfaces themselves.

This paper proposes to partially fill the gap between the macro- and micro-facets of the earlier study. It analyzes the meso-aspects of coal strip mining as they modify the landscape. In contrast to the predecessor study, however, this analysis is confined to the

[5] Doerr and Guernsey, *op. cit.*, pp. 197-210.

Northern Appalachian Coal Fields rather than covering the country as a whole.

Five questions concerning the meso-aspects of strip pits pose themselves to the geographer. First, how numerous are the pits in an area of intensive stripping? Second, what is the areal pattern that the pits assume, i.e. what spatial relationships do they bear to one another? Third, what are their normal and extreme dimensions? Fourth, what typical configurations do they possess? And fifth, what is the pattern of routes associated with the strip pit landscape? These and similar questions have been asked by geographers of themselves concerning all manner of cultural landscape elements, from crop fields to urban centers. Answers to these five questions comprise the meso-facets of the bituminous coal strip mining industry largely by-passed by Doerr and Guernsey.

Two areas in the Northern Appalachian Coal Fields, each encompassing some 300 square miles, are analyzed here in an attempt to ascertain the strip pit situation. One of the two areas is located along the northeastern margin of the coal fields. The other is situated in the deep interior of the fields. Personal acquaintance with the coal mining territory of the Northern Appalachian Plateau indicates that the two areas here analyzed are typical of the more intensively stripped portions of the Plateau.

Strip Pits: Number, Configuration, Dimensions, Orientation and Associated Transport Routes

The map in Figure 2 represents the strip pit situation along a portion of the northeastern margin of the Northern Appalachian Coal Fields. Note the location of the area covered by the main map, as represented by the black rectangle within the inset map. On the main map each irregular black area is a strip pit, either actively in use or abandoned. All main roads (i.e., federal and state highways, but not legislative routes and dirt tracks) are indicated by lines without crossbars, and are identified by number. All non-spur railroads are shown by conventional symbol and are identified (Pennsylvania Railroad, Baltimore and Ohio Railroad, New York Central Railroad). Data for this map were obtained from U. S. Department of Agriculture aerial photographs taken in 1951, supplemented by field reconnaissance.

A number of significant facts become evident upon inspection of the strip pits on this map. First, strip pits are extremely numerous

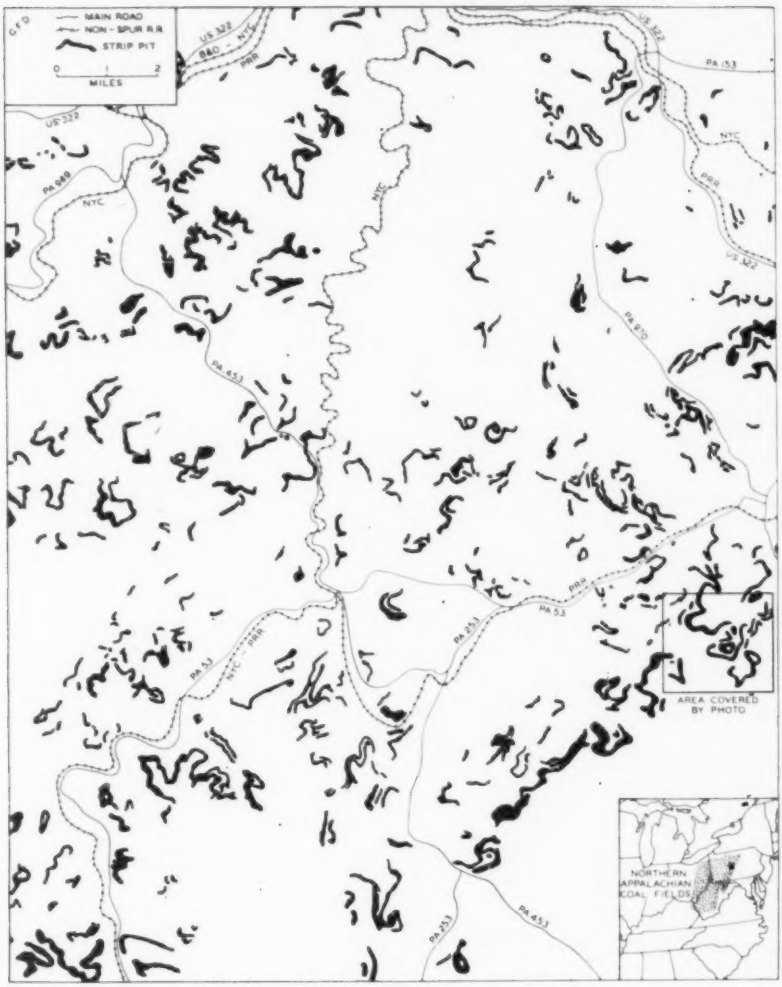


FIG. 2. Bituminous coal strip pits, both active and abandoned, in a 300 square mile area along the eastern margin of the Northern Appalachian Coal Fields, 1951. Data from U. S. Department of Agriculture aerial photographs and field reconnaissance.

in this area, averaging more than one per square mile. Some 400 pits are concentrated in an area of approximately 300 square miles. In very few places are adjacent pits separated from each other by more than a mile or two, and in numerous instances the pits are

only a few hundred to a few thousand feet apart. Since approximately one-half of the area covered by the map is in forest or brush, it is apparent that at least in this intensively stripped section of the Plateau strip pits form a very important element of the cultural landscape. A flight over the area brings to view simultaneously, at any one moment, scores of yellowish- to brownish-colored exposures of the raw earth. One of the anomalous aspects of the situation, however, is that the land-bound traveller following the main road and rail routes of the area is unaware of more than a small fraction of the pits. For, as the map shows, most of the pits are situated in part or *in toto* from one to five miles away from the main land routes. And visibility in this region typically is limited to a fraction of a mile by omnipresent hilly terrain, by extensive forest vegetation, and by roadside tree or brush rows.

A second item concerning strip pits that is evident from Figure 2 is their elongated and irregular shape. Unlike the situation in areas of level terrain and flat-lying coal beds where large compact blocks of land may be stripped *en masse*, the hilly terrain of the Plateau limits stripping possibilities to narrow bands around the edges of ridges. Penetration deep into the sides of the ridges is prevented by rapid thickening of rock overburden on top of the essentially horizontal coal seams. Hence most strip pits are narrow, generally ranging from a few hundred to a thousand feet, altho a few are over 2,000 feet wide; and almost all pits correspond quite closely in orientation to the contours of the topography. Many pits are V-shaped or U-shaped in configuration where they swing around the nose of a ridge or cross over a stream valley from one side to the other. The specific width of a particular pit depends upon two factors: angle of ridge-side slope and thickness of coal seam. The more gentle the ridge-side slope and the thicker the coal seam, the farther into the hillside the pit can be dug before the overburden becomes excessively expensive to remove and therefore the greater the width of the pit.

Another characteristic of the strip pit pattern apparent in Figure 2 is that the pits everywhere are of limited extent along their long axes, seldom exceeding three miles in length. Indeed, many pits are only a few hundred to a few thousand feet long. Such lack of continuity in stripping along the coal outcrops is a result of a variety of factors. Stripping operations may be stopped by a local decrease in thickness of the seam, or by a non-typical increase in chemical

or mechanical impurities in the seam. Stripping may be stopped by an increase in angle of surface slope that hinders mining operations and the transport of mined coal. Or stripping may be stopped due to the high cost of mining rights to a particular tract of land, or the unwillingness of a land owner to permit stripping, or the economic unfeasibility of disposing of mine waste water. Because of one or more of these factors, therefore, strip pits invariably are of limited length.

Still another facet of the strip pit pattern on Figure 2 is the parallelism of adjacent pits in a number of instances. Such a parallel orientation of pits is especially common in the southern and eastern portions of the map. This pattern results when two stratigraphically proximate seams outcrop on a ridge side. In this circumstance stripping operations are carried on along both outcrops, resulting in a parallel pattern of pits.

A final aspect of the strip pattern on Figure 2 is the absence of pits in certain relatively extensive areas. For instance, there are no pits in the southeastern corner of the map, or in the north-central and south-central portions. Such a lack of pits is due to one of three causes. Either there are no coal beds present, as in the southeast (note position of black rectangle in inset map); or the coal beds present are buried and do not outcrop, as in the north-central and south-central portions of the map; or coal beds that outcrop are not now being stripped for one or another of the reasons stated above.

Photographic representation of a more or less typical group of strip pits is given in Figure 3. The area covered by the aerial photograph is indicated by the rectangle located along the right-central margin of the map in Figure 2. Note, for purposes of scale, that this rectangle and hence the photo has an east-west dimension of two miles. A number of features, both natural and cultural, are labelled on the photo for identification purposes. The dominant status of strip pits in the cultural landscape of this portion of the Plateau is evident. So also is the proximity of pits to one another, their characteristic U and V shapes, the lack of continuity along their long axes, their narrowness, and their frequent parallel orientation. All of these facts were pointed out on the preceding map. What was not evident on that map was the intricate network of non-geometrically patterned secondary roads (many of them dirt) and the occasional spur-line railroads that are intimately associated with the

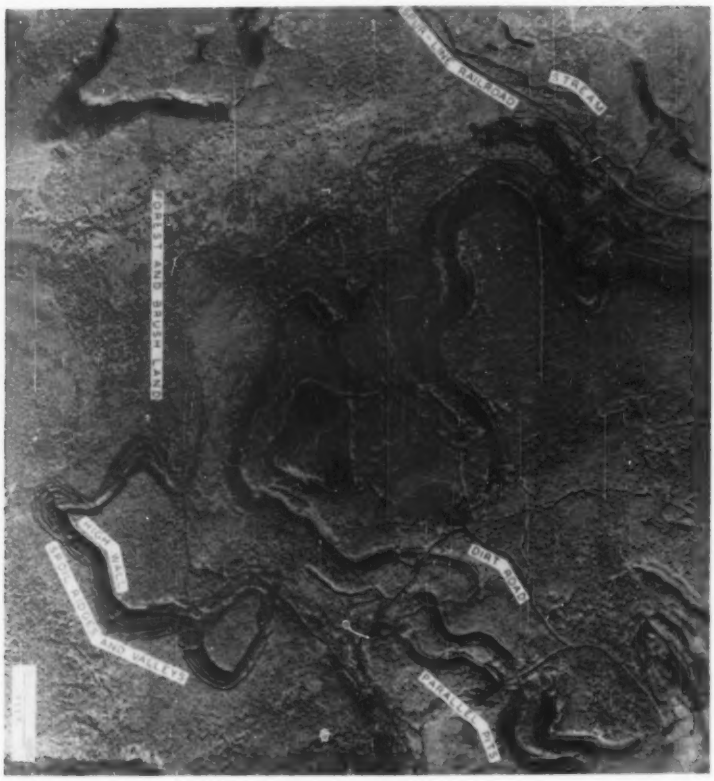


Fig. 3. Aerial photograph of a number of bituminous coal strip pits and associated transport routes in an approximately four square mile area along the eastern margin of the Northern Appalachian Coal Fields, 1951. Data from U. S. Department of Agriculture aerial photograph AQG-13F-24.

stripping landscape. Such a net is apparent on the photo, and is representative of the routes that interconnect every one of the thousands of strip pits of the Plateau to a main road or rail line.

A Classiftcation of Strip Pit Configurations

Analysis of the configuration of hundreds of strip pits in the Northern Appalachian Coal Fields has led to the conclusion that all pits in the area may be classified into one or a combination of a few basic shapes. Examples of these basic pit shapes and their combinations are shown in close proximity to one another on the map in Fig-

FIG. 4. Bituminous coal strip pits, both active and abandoned, in a 300 square mile interior portion of the Northern Appalachian Coal Fields, 1951. Data from U. S. Department of Agriculture aerial photographs and field reconnaissance.

ure 4. For visualization purposes, a detailed drainage net is drawn on the map in the areas being stripped.

Two major classes of pits are apparent. First are the pits that are narrow in comparison with their length, and are crenulated or

scalloped in configuration. Second are the pits that are relatively broad in comparison with their length, and are digitated or fingered in configuration. Examples of the narrow, crenulated pit shape are labelled 1A and 1B on the right-middle part of the map. Examples of the broad, digitated pit shape are labelled 2A and 2B in the middle part of the map.

Types 1A and 1B result when a coal seam outcrops a considerable distance downslope from a ridge crest. Hence, stripping is confined to the margins of the ridge, and the pit assumes a scalloped configuration in conformity with the *outline* of the ridge and its spurs. Such a pit might appropriately be termed a ridge-side pit.

Types 2A and 2B result when a coal seam lies immediately beneath the crest of a ridge. Hence, stripping involves the removal of all or most of the ridge crest to get at the seam, and the pit assumes a fingered configuration in conformity with the *axes* of the ridge and its spurs. Such a pit might appropriately be termed a ridge-crest pit.

Both ridge-side and ridge-crest pits, in turn, may be subdivided into two classes. Certain ridge-side pits are continuous, and completely circumscribe the ridges and their spurs. An example of such a continuous ridge-side pit is labelled 1A on the map. Other ridge-side pits, on the contrary, are interrupted or discontinuous, for one or another of the reasons previously described in connection with the earlier map. Examples of such interrupted ridge-side pits are labelled 1B on the map.

Ridge-crest pits likewise may be subdivided into two classes. Some ridge-crest pits include all the peaks of the ridges that they decapitate. An example of such a pit is labelled 2A on the map. Other ridge-crest pits exclude the higher peaks of the ridges they decapitate. An example of such a pit is labeled 2B on the map.

All four patterns—1A, 1B, 2A, 2B—merge into one another in most instances. Examples of such merged pit forms are numerous in Figure 4, but have not been labelled. They may be identified by their combination of shapes.

This classification of individual pits is important only insofar as their shapes are concerned; there are no differences among the pits in mining techniques. Pit shapes are important to the geographer in that they represent distinctive imprints placed on the landscape by man. Such imprints as those described here can exist only in an area of hilly terrain, underlain by essentially horizontal mineral seams that are being mined by stripping.

SUMMARY

Bituminous coal strip pits are imposing a new land use pattern upon the preexisting complex in the United States. In certain areas the strip pit has now become the most widespread and distinctive cultural element in the landscape.

Macro- and micro-aspects of coal strip mining as it affects the landscape have been studied by Doerr and Guernsey. This paper analyzses certain meso-aspects of stripping, insofar as it modifies the land use pattern of the Northern Appalachian Coal Fields.

Significant findings include the following. 1) In areas of concentrated stripping, pits average more than one per square mile and are seldom separated by more than a mile or two. 2) All pits are narrow, elongated, and irregular in shape; many have a V or U configuration; and all approximate contours in their orientation. 3) All pits may be classified into one or a combination of four basic shapes. 4) Pits seldom exceed three miles in length and 2,000 feet in width; many are only a few hundred feet in both length and width. 5) There is frequent parallelism in the orientation of adjacent pits. 6) Pits are absent from relatively extensive areas in otherwise intensively stripped regions. 7) The strip pit landscape is characterized by an intricate network of secondary roads and occasional spur-line railroads.

LOG-RAFTING IN LOUISIANA

GEORGE A. STOKES
Northwestern State College
Natchitoches, Louisiana

INTRODUCTION

The transportation potential of Louisiana waterways has been the subject of considerable discussion in recent years. The geographer is quite naturally interested in such problems relating to the employment of natural resources. His interest embraces the past, as well as the present, since previous experience may throw some light on a particular problem of today. This brief study of log-rafting in Louisiana will probably answer few questions pertaining to water transport under present conditions. However, it may give depth to the viewpoint of those concerned by showing, if only in part, what has happened in the past.

Very little has been recorded about the movement, by rafting, of timber and forest products along Louisiana streams. From the early days of settlement until nearly 1900 the rivers were the only means at hand sufficient to move logs and lumber, in quantity, for considerable distances.[1] From its simple beginning rafting grew rapidly, assumed major proportions after the Civil War, and fell into decline as the forests were removed. The streams utilized included many now regarded as too insignificant for such work. Information about rafting on these lesser waterways is obtainable only from a limited literature or thro interviews with the few remaining "old-timers" who were active in or close to the work. Under the handicaps thus imposed this study is manifestly incomplete. At least it is a beginning.

The Early Days

New Orleans, the focal point of French colonial activity on the lower Mississippi River, became an important sawmilling center at an early date. Large quantities of excellent cypress timber grew thruout the area, and sizable streams were at hand to move the logs (Fig. 1). Two sawmills in lower Louisiana were cutting cedar and cypress in 1716,[2] and by 1726 an export trade had grown up in lumber and naval stores.[3] Lumber was floated to New Orleans along a number of bayous, and cypress, in great demand for all building purposes, was locally scarce in 1730.[4] By 1790 lumber milling was the most important single industry in the city, and about 30 mills were in operation in its immediate area.[5]

The mills of the time were small, and much lumber was produced by whipsawing, often with slave labor.[6] Many plantation owners around New Orleans kept their slaves busy, during the weeks when they were not required in the fields, by having them

[1] W. Watson Davis, "The Yellow-pine Lumber Industry In the South," *Review of Reviews*, Vol. 29, No. 4 (April, 1904), p. 445.

[2] N. Miller Surrey, *The Commerce of Louisiana During the French Regime, 1699-1763*, Longmans, Green and Company, New York, 1916, p. 284.

[3] W. Adolphe Roberts, *Lake Pontchartrain*, The Bobbs-Merrill Company, New York, 1946, p. 51.

[4] Edna F. Campbell, "New Orleans in Early Days," *Geographical Review*, Vol. 10, No. 1 (July, 1920), p. 34.

[5] Edna F. Campbell, "New Orleans at the Time of the Louisiana Purchase," *Geographical Review*, Vol. 11, No. 3 (July, 1921), p. 422.

[6] A. E. Wackerman, *Harvesting Timber Crops*, McGraw-Hill, New York, 1949, p. 21.

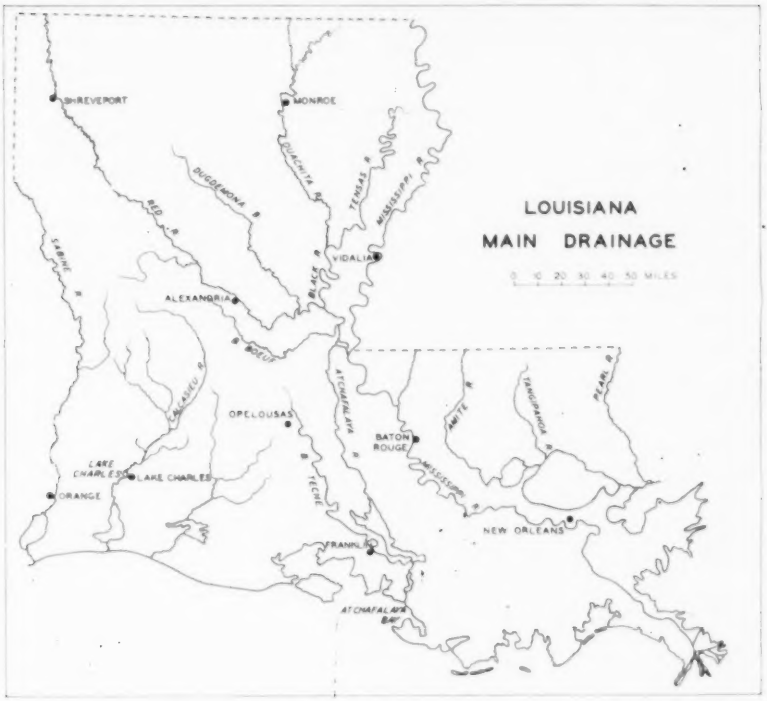


FIG. 1. Main drainage of Louisiana.

cut and square cypress timber on backswamp land.[7] Some planters built mills powered by millraces cut in the levees during high water. Their principal products were cypress timber and lumber, and boxes, to be sold in Cuba and used for shipping sugar. A steam sawmill was reportedly built in New Orleans in 1803, only to be burned by sawyers afraid of losing their jobs.[8]

The number of sawmills grew as settlements developed along the waterways. According to the census of 1810, there were 43 mills operating in Louisiana, increasing to 139 by 1830. The Williamson history of northeast Louisiana mentions the establishment of a sawmill near the present northern section of Monroe about 1795.[9]

[7] Campbell, loc. cit.

[8] Wackerman, loc. cit.

[9] F. W. and L. H. Williamson, *Northeast Louisiana*, Historical Record Association, Monroe, Louisiana, 1939, p. 49.

Numerous mills cut along the streams around Opelousas in 1802, and another early mill was operated on Bayou Boeuf, near Alexandria, by the Bowie brothers, John, Rezin, and James.[10] Oak, ash, and cypress were cut and sent down to Baton Rouge via the Boeuf, Red, and Mississippi. Several sawmills were built in Catahoula Parish between 1806 and 1816, and in 1839 the first steam mill appeared on Black River.[11] A steam mill was operating at Vidalia in 1812,[12] and in 1837 E. J. Smedley, a St. Louis millwright, built the first mill at Shreveport.[13] At Point Pleasant, on Bayou Bartholomew in Morehouse Parish, a steam sawmill was in operation in 1840, cutting pine and cypress.[14] One writer mentions the presence of water-powered mills along the larger streams west of the Mississippi in the Catahoula Parish area.[15] In 1852 there were ". . . three extensive steam sawmills in the town of Baton Rouge which turn[ed] out about 15,000 feet of lumber per day in total. . . ."[16] A cypress mill was located on Bayou Teche, just south of Franklin, in 1853.[17]

During these pre-Civil War years comparatively few mills were active in that portion of Louisiana drained by the Calcasieu and Sabine rivers and their tributaries. Settlement there lagged far behind that of lands along the Red-Mississippi systems. A mill was operating on the Calcasieu in 1840, and another at Westlake in 1860.[18] Doubtless there were others, but the disparity in numbers between the eastern and western sections is quite apparent.

Rafting methods varied somewhat, apparently taking forms

[10] C. L. Douglas, *James Bowie*, Banks, Upshaw and Company, Dallas, 1944, p. 9.

[11] A. R. Kilpatrick, "Historical and Statistical Collections of Louisiana—Parish of Catahoula," *DeBow's Review*, New Series, Vol. 5, 1852, p. 635. The plant described was a combined grist and sawmill, and could cut 30,000 board feet of lumber weekly. The lumber sold for prices ranging from $12.00 to $22.00 per thousand feet, depending upon its quality.

[12] Robert Dabney Calhoun, "A History of Concordia Parish," *Louisiana Historical Quarterly*, Vol. 15, No. 1 (January, 1932), p. 66.

[13] *Shreveport Centennial Program*, Shreveport, Louisiana, June, 1935.

[14] Williamson, op. cit., p. 71.

[15] H. Bry, "The North-Western Region of Louisiana," *The Commercial Review of the South and West*, Vol. 4, 1847, p. 228.

[16] J. Carrighan, "Historical and Statistical Collections of Louisiana—Parish of Baton Rouge," *DeBow's Review of the Southern and Western States*, Vol. 12, 1852, p. 26.

[17] J. L. de Grummond, "A Social History of St. Mary Parish, 1845-1860," *Louisiana Historical Quarterly*, Vol. 32, No. 1 (January, 1949), p. 51.

[18] Grace Ulmer, "Economic and Social Development of Calcasieu Parish, Louisiana," *Louisiana Historical Quarterly*, Vol. 32, No. 3 (July, 1949), p. 550.

suited to the streams being used. The early planters around New Orleans floated logs and timber along ditches dug by their slaves to the main channels, and then downstream to the city.[19] An early traveller on the lower Mississippi described a raft of ash and cypress on its way down the river. It was immense, and carried six men who lived in a skin-covered cabin built on the raft.[20] Along lesser waterways rafts that could be more easily controlled were required. These appeared as small rafts made of eight or ten logs placed side by side and held together by poles laid across each end of the raft and spiked to the logs with strong wooden pins. Each unit of ten logs thus "spliced" was called a "crib." A "raft" was made by linking up several cribs, one behind another, to a total of from 300 to 500 logs,[21] and could be guided with comparative ease.

Towing was not a common practice during rafting's early days. Rafts ordinarily moved with the current, and along the smaller streams loggers depended upon the spring rises to float and move their timber. Some rivers were not always reliable, and logs often rotted on the ground when the water failed to rise high enough to float them out.[22]

The Peak

New Orleans retained her lead as a lumber shipping center for a number of years after the Civil War. The 1880's are generally regarded as the peak decade of rafting along the eastern streams.[23] By that time mills had been built at numerous points on the rivers to the north, and forest products of many kinds were being rafted downstream. In one instance 11,000,000 wooden pipe staves went down the Ouachita River in a single tow.[24]

New Orleans, however, was soon surpassed by a new industrial center developing in southwest Louisiana. Enjoying all the advantages New Orleans had possessed in the pre-war period, the growth of Lake Charles as a milling and lumber shipping center was in-

[19] Campbell, op. cit., p. 422.

[20] W. Prichard, F. B. Kniffen, C. A. Brown, "Southern Louisiana and Southern Alabama in 1819: The Journal of James Leander Cathcart," *Louisiana Historical Quarterly*, Vol. 28, No. 3 (July, 1945), p. 25.

[21] J. S. Springer, "Forest Life and Forest Trees," *DeBow's Review*, New Series, Vol. 5, 1852, p. 602.

[22] Bry, op. cit., p. 229.

[23] "New Orleans—Important Lumber Center, Specializing in Export Trade," *Southern Lumberman*, Vol. 144, No. 1817, (December, 1931), p. 137.

[24] Williamson, op. cit., p. 112.

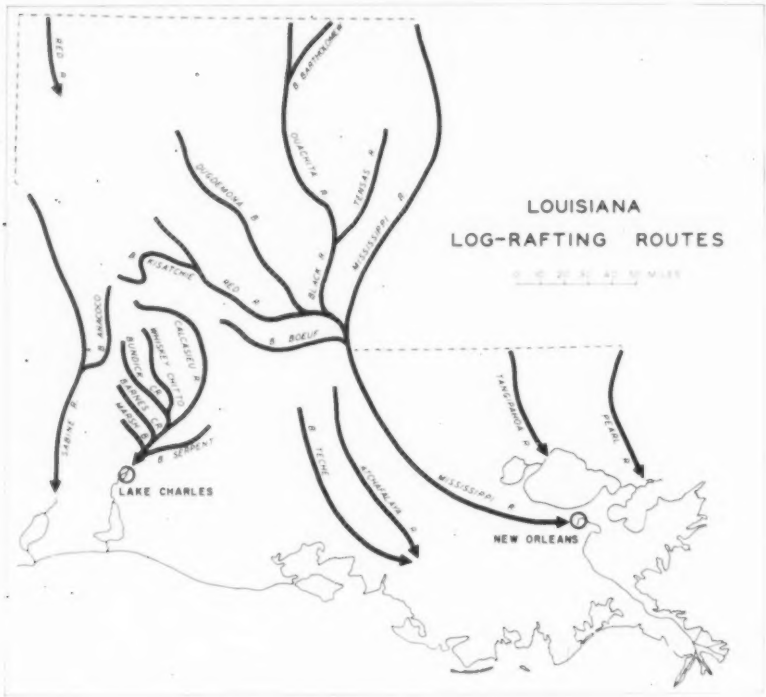


FIG. 2. Principal log-rafting routes used in Louisiana.

evitable. The drainage system to the north brought logs out of one of the finest longleaf pine districts in North America, and funneled them down to the mills dotting the shores of Lake Charles (Fig. 2). Logs could be easily towed anywhere around the lake, and schooners carried lumber from the port to Latin America and Europe. A visitor about 1870 counted 17 steam sawmills in an area of a few square miles, and described the region as having the appearance of an immense lumber yard.[25] Many of these were large mills, and their rate of production was high. In 1892 one of the Krause and Managan Lumber Company mills on the lower Calcasieu cut 148,000 board feet of lumber in an eleven-hour run.[26]

[25] Samuel H. Lockett, "Louisiana As It Is," unpublished manuscript, Louisiana State University, 1873, p. 140.

[26] James Boyd, "Fifty Years in the Southern Pine Industry," *Southern Lumberman*, Vol. 144, No. 1817 (December, 1931), p. 27.

Many streams were used in Louisiana during the peak period of rafting, but few, if any, carried timber equal in volume to that borne by the Calcasieu River. Mills were established all along its lower section, and clustered most thickly around Lake Charles and Westlake. A secondary western center developed on the Sabine River, around Orange, Texas.[27] Mills there cut pine and cypress rafted down Bayou Anacoco and other tributaries to the Sabine.[28] In at least one instance timber was cut in Louisiana, moved by rail to the Sabine, and rafted down to Orange.[29] Other mills appeared along the streams between the Teche and Calcasieu, most of them cutting cypress from the bottom lands.

For the most part the cypress was cut in the fall, so that it could dry during the winter. Sometimes the trees were girdled or cut half way thru, and cut down in the spring. At the time of cutting roads were cleared thru the bottoms, and when the spring rises came the logs floated easily, and were led along the roads to the main channels. Sometimes the loggers worked standing in pirogues, and often lived in "camp boats," or "quarterboats." Many farmers cut logs for sale to the mills, hauling them with ox teams to a place along the bank where they could be rolled off the wagons directly into the water. These unloading points were called "dumps," and some were used continuously for years. The part-time loggers often went downstream with their rafts, selling the logs to timber buyers at the mouth of the river.

Rafts floated down the Sabine and Calcasieu were generally of the "crib" variety. Some large pine logs would not float, and were spiked to cross-pieces laid across two floaters. The cribs were linked together by ropes pulled thru holes bored in the ends of a couple of logs in each crib, the ropes being held in place by heavy wooden pins driven into the holes. Sometimes the men accompanying the raft lived in a shanty built on the last crib. On the lower Calcasieu, rafts were occasionally made by encircling a mass of logs with a chain of logs. The "skin logs" in the chain were attached to one another by rope and pin. Each such raft was a "boom," and held about 300 logs. Wood-burning steam tugs towed the booms to

[27] T. W. Poole, *Some Late Words About Louisiana*, Crescent Steam Print, New Orleans, 1891, p. 70.

[28] *Vernon Parish Resources and Facilities*, State of Louisiana, Department of Public Works (April, 1949), p. 8.

[29] George B. Hartman, "The Calcasieu Pine District of Louisiana," *The Ames Forester*, Iowa State College, Vol. 10, 1922, p. 66.

Lake Charles, where the timber buyers made their purchases. After the sale the tugs pulled the rafts to one or another of the mills around the lake, sometimes moving as many as 2,000 logs at once.

Logs were rafted down the western waterways at all seasons of the year, but spring was always the peak period. The Calcasieu could be counted on for at least one freshet a year, usually by June, and in 1885 a single rise on that river carried about 50,000 logs southward. So many logs went downstream that they could not be stopped even tho several large chains were put across the river. Thousands went all the way to the Gulf of Mexico.[30]

Timber stealing on government land along Louisiana rivers was commonplace, even in the early days,[31] but during the peak period of rafting the forests were looted on a truly grand scale. United States gunboats patrolled the Atchafalaya and Calcasieu rivers, and some of their tributaries, in 1851.[32] By 1860 government land was being illegally logged inland from Atchafalaya Bay and along the Pearl and Calcasieu rivers. Floating sawmills frequently moved and easily hidden, operated on the fringes of the forest. A special Federal agent on one occasion seized 100,000 stolen logs on Lake Charles, cut by Henry J. Lutcher for the West Indies market. Before the matter was settled the agent had to call for a revenue cutter to patrol the lake and for troops to guard the logs.[33]

The Decline

The exhaustion of northern timber stands near the end of the nineteenth century turned the attention of the lumbermen to Louisiana. An almost immediate result was the construction of railroads across all parts of the state and the extension of logging trams into the most remote forests.[34] The coming of the railroads did not signal the end of rafting, and the older method competed effectively with the logging trams as long as the timber lasted.

Log rafting operations were speeded up with the introduction of floating steam skidders, gasoline-powered pullboats, and similar equipment, but the basic methods were unchanged. Cribs were being

[30] Boyd, op. cit., p. 27.

[31] Campbell, op. cit., p. 422.

[32] Rachel Edna Norgress, "The History of the Cypress Lumber Industry in Louisiana," *Louisiana Historical Quarterly*, Vol. 30, No. 3 (July, 1947), p. 17.

[33] R. G. Lillard, *The Great Forest*, A. A. Knopf, New York, 1947, p. 171.

[34] George A. Stokes, "Lumbering and Western Louisiana Cultural Landscapes," *Annals*, Association of American Geographers, Vol. 47, No. 3 (September, 1957), p. 253.

rafted on south Louisiana streams as late as 1954. However, the intensification of logging resulted in the virtual destruction of Louisiana forests, and the large riverbank mills began to shut down. Along with the mills supplied by rail, most of them had ceased operations by 1930. Rafting is still seen along a few streams in the state, but it survives only as a restricted and apparently still-declining practice.

THE DIRECTION OF HIGH SCHOOL GEOGRAPHY

CLARENCE WOODROW SORENSEN
Illinois State Normal University

Geography in the high school is an obvious topic of interest for most persons concerned with geographic education. Some observers suggest that geography is disappearing from grades 9-12. Only occasionally does one hear optimistic reports about the strength of geography in the high school. Yet few of these reports appear to be based on quantitative data that provide for any precise measurement.

In this connection, the enthusiasts for geographic education may have overlooked some pertinent materials, especially the latest report of *Offerings and Enrollments in High-School Subjects*,[1] published by the U. S. Office of Education in 1951, based on data for 1948-49. This comprehensive survey suggests that perhaps it is too early to go into mourning about high school geography.

Incidentally this survey by the Office of Education has a very broad base. Inquiries were directed to all junior and senior high schools in the United States reported as enrolling 500 or more pupils, and to half of the schools enrolling fewer than 500 pupils. Useful replies were returned from 91.8 per cent of the larger schools and 75.1 per cent of the smaller units.

TOTAL ENROLLMENT IN GEOGRAPHY

Geography has by no means disappeared from grades 9-12, acording to the survey. During the school year 1948-49, courses in "geography" attracted 5.6 per cent of all students in these grades.[2]

[1] U. S. Office of Education, *Offerings and Enrollments in High School Subjects*, Biennial Survey of Education in the United States, 1948-50, Chapter 5. (Washington, U. S. Government Printing Office, 1951.)

[2] *Ibid.*, p. 9.

An additional 1.7 per cent were registered in "economic geography," apparently listed separately because of a connection with business education. A very few other students were enrolled in courses in earth science and conservation.

The per cent of students who take geography at one time or another in high school is of course much larger than indicated above. We may note that a total of 7.3 per cent of the students were enrolled in "geography" and "economic geography" for a given year. Let us assume, for purposes of this discussion, that there are no drop-outs from school during a four-year period, and no student registers more than once in a geography course. Then a total of 29.2 per cent of all students would have been enrolled in

TABLE 1

PER CENT OF PUPILS ENROLLED IN GEOGRAPHY, GRADES 9–12, DURING 1948–49[1]

State	Geography	Economic Geography	Total	State	Geography	Economic Geography	Total
United States	5.6	1.7	7.3	Nevada	1.1	—	1.1
***				New Hampshire	.9	4.4	5.3
Alabama	1.7	1.2	2.9	New Jersey	2.0	5.1	7.1
Arizona	.4	1.0	1.4	New Mexico	1.2	.5	1.7
Arkansas	4.3	1.5	5.8	New York	14.2	1.0	15.2
California	10.2	.4	10.6				
Colorado	2.5	.5	3.0	North Carolina	4.8	.5	5.3
				North Dakota	8.5	1.7	10.2
Connecticut	2.8	3.3	6.1	Ohio	3.9	2.9	6.8
Delaware	6.8	2.1	8.9	Oklahoma	7.0	.5	7.5
Florida	2.6	1.2	3.8	Oregon	10.5	.1	10.6
Georgia	5.4	1.3	6.7				
Idaho	3.3	.2	3.5	Pennsylvania	1.8	2.8	4.6
				Rhode Island	7.1	3.1	10.2
Illinois	3.8	3.1	6.9	South Carolina	2.8	[2]	2.8
Indiana	3.3	.9	4.2	South Dakota	7.0	1.0	8.0
Iowa	4.6	1.8	6.4	Tennessee	5.3	1.2	6.5
Kansas	3.8	.5	4.3				
Kentucky	4.3	1.5	5.8	Texas	2.8	1.0	3.8
				Utah	9.2	—	9.2
Louisiana	2.6	.6	3.2	Vermont	3.6	3.1	6.7
Maine	5.8	2.4	8.2	Virginia	4.2	1.5	5.7
Maryland	8.7	1.4	10.1	Washington	3.4	.4	3.8
Massachusetts	4.9	5.4	10.3				
Michigan	4.2	1.4	5.6	West Virginia	3.6	1.0	4.6
				Wisconsin	7.3	2.3	9.6
Minnesota	1.6	3.1	4.7	Wyoming	1.6	1.7	3.3
Mississippi	11.2	.8	12.0				
Missouri	5.6	.4	6.0	District of			
Montana	2.0	.8	2.8	Columbia	9.2	.2	9.4
Nebraska	12.3	.7	13.0				

[1] Based on survey, U. S. Office of Education, *Offerings and Enrollments in High School Subjects*, pp. 100–101, 105.

[2] Less than 0.05 per cent, or fewer than 1 pupil in 2,000.

geography at one time or another during their four-year high school experience.

Admittedly the conditions noted above do not prevail. Yet drop-outs would probably not decrease the per cent of students taking geography, since it appears that most geography courses are offered in grades 9-10.[3] Also it appears that relatively few students register for more than one course in geography. Precise figures are not available, but *it seems likely that more than 20 per cent of all high school students registered for at least one course in geography during the last decade.*

How the States Differ

As should be expected, the relative prominence of geography varied greatly, state by state, when the survey was made. The table shows that the five leaders in the total geography program were New York, Nebraska, Mississippi, California, and Oregon. The five states nearest the bottom of the list were Nevada, Arizona, New Mexico, Montana, and South Carolina.

It may also be noted that economic geography is relatively much stronger in some states than others. Arizona, for example, had more than twice as large an enrollment in economic geography as in "geography." In Illinois the registration was approximately even. In New York the enrollment in "geography" was more than 14 times the enrollment in economic geography.

Trends in Enrollment

The report by U. S. Office of Education includes some especially interesting material with reference to enrollment in earlier years for which comparable data are available. At one time earth science clearly dominated the high school field. Yet it has declined consistently and now has almost disappeared. Economic geography apparently has experienced some ups and downs, with a peak in the late 1920's and the 1930's. "Geography," on the other hand, has experienced rather uniform growth since the decade of the twenties.

One cannot be sure of the character of this growing area labelled simply "geography." Other data indicate that in most in-

[3] Howard R. Anderson, *Teaching of United States History in Public High Schools*, U. S. Office of Education Bulletin 1949, No. 7. (Washington, U. S. Government Printing Office, 1949), pp. 6-11.

TABLE 2

Per Cent of Pupils Enrolled in Geography, During Last Four Years of Public Secondary Schools*

	1900	1910	1915	1922	1928	1934	1949
Geography					.3	2.1	5.6
Economic Geography				1.7	4.8	4.0	1.7
Earth Science	29.8	21.0	15.3	4.5	2.8	1.7	.4

* From U. S. Office of Education, *Offerings and Enrollments in High School Subjects*, pp. 107–108.

stances it is "world geography" of one kind or another.[4] An examination of specific curricula and textbooks current at that time would certainly reveal a considerable variety in the organization of courses of world geography.

What is the current situation with reference to geography in the high schools? One cannot be certain, since the Office of Education has published no comprehensive survey of enrollment in more recent years. Yet certainly the figures indicate that geography is relatively strong, and growing in importance: One must remember that in each instance *the per cent shown in the tables must be multiplied by three or four to get the approximate per cent of students who take geography at some time during their four year high school experience.* So this writer finds no evidence at hand to support the idea that geography is about to disappear from the secondary school curriculum.

[4] U. S. Office of Education, *Offerings and Enrollments in High School Subjects*, pp. 31-32.

USE OF ELEMENTARY SCHOOL PROJECTS IN THE COLLEGE CLASSROOM

Thomas G. Gault
State Teachers College, Indiana, Pennsylvania

Every prospective elementary school teacher should have some college work in geography before she is certified for teaching. However, the significant point is not the specific number of semester hours she should have, but the character of the courses that she elects. These courses should help her in teaching geographic concepts and generalization, for it is the elementary teacher who will be responsible for helping John and Mary with their geographic A B C's, and who helps establish the general level of geographic

understanding for our future citizens. It is important, therefore, that the college courses which she elects should be interesting and meaningful.

Pensylvania requires that elementary teachers take two courses in geography: "World Geography" and "Geography of United States and Pennsylvania." A third course is offered in the Education Department for these teachers—"The Teaching of Social Studies and Geography in The Elementary School." These courses should be a challenge and not burdensome introductory courses. They should stimulate interest and aid the future teacher by providing means of meeting classroom situations.

Educationalists tell us that the amount of knowledge and understanding acquired is related to the interest generated. Properly handled geography projects, two or three dimensional, will capture the interest of elementary students. Therefore, the planning and construction of simple projects that may be used in concrete teaching situations in a device that can prove exceedingly valuable in preparing the future teacher to meet the individual needs of the student. Projects should be designed to illustrate some specific phase of geography and may take the form of models or displays.

USE OF PROJECTS

Elementary teachers will be better prepared to supervise geography projects if their training includes the opportunity for planning and constructing one or more of them. In a recent class of future elementary teachers studying the "Geography of United States and Canada," one week was taken away from formal text study and other activities to concentrate upon the practical applications of projects such as those noted below.

Several precautions must be kept in mind when planning to conduct such projects in college classes; these include the usefulness of the project, the quality of finished product and cost. Projects, altho constructed by college students, need to be simple enough for elementary students to plan and construct by themselves. If projects of an overly complicated nature are presented to elementary students they become discouraged and delays occur usually ending with the teacher doing most of the work. The construction of a model to illustrate the hydraulic action of water in erosion may be fine for a senior high school class, but it is likely to prove much too difficult for an elementary class. A crude windvane,

rain gauge or sun dail may be just the ticket to attract elementary students. These may seem too simple for college students but it should be remembered that college students constructing such projects may be expected to present a refined product of superior quality.[1] In addition the student can be expected to provide a written plan and an analysis of the project for its future use.

It is also essential that such projects be inexpensive with the materials easily obtained in the vicinity of the average community. A fine selection of pictures may be gathered from old magazines. Scrap lumber is available at little or no cost at local lumber yards. Local merchants are usually glad to give away cardboard boxes. Coinpany publicity offices and farmers are good sources for samples of products. Many other sources of free or inexpensive materials are available to the resourceful teacher. A model of the St. Lawrence Seaway with its lock system with motors to operate the gates and pumps might be fascinating and of great use of teaching and learning, but it would be neither inexpensive nor would many of the materials be easily obtained by the average elementary students in the local community.

Geography should be the primary purpose in the design of the project. However, it is not necessary to limit its use exclusively to the study of geography. If in the process of gathering, planning and construction, some history, spelling or arithmetic is used, this use will simply increase the value of the project as a learning situation. The project may serve to show the elementary student the interrelations between various subjects and thus also serve to illustrate the value of geography to other teachers.

Projects planned and constructed in the college classroom should be used solely for demonstration purposes. It is desirable to have the projects illustrate as many different geographic ideas and as many materials and methods of construction as possible. In this way the future elementary teacher gains a wide variety of ideas for future use. The instructor should remind his students, however, that in the elementary classroom projects should be on a similar subject.

The college instructor should encourage his students to be original with their projects. It is advisable to keep a card file of all

[1] Thomas Frank Barton, "Establishing an Inexpensive Weather Station," Journal of Geography, XL (1941), p. 226 and "Collecting and Visualizing Precipitation Data in Schools," Journal of Geography, LI (1952), p. 23.

projects constructed and use this to prepare a list of possible projects but leaving the door open to new ideas. Experience has shown that the greatest benefit is derived when the work is completely that of the student. This provides him with satisfaction of accomplishment and security in the idea that he can handle an actual situation.

TEACHERS DO PROJECTS

Recently a class of future elementary teachers planned and constructed projects as suggested above. The instructor presented only a bare outline of possible projects and made reference to George J. Miller's, *Activities in Geography* by McKnight and McKnight. The class was divided into teams of two, except in a few cases of individuals who preferred to work alone. A few tips were given on how to proceed but for the most part the instructor asked only that they make complete plans before starting construction. These plans were presented for approval by the instructor. At the final class period all projects were assembled and a public display was made at a local teachers conference. The display made possible the sharing of ideas with students and teachers outside the geography class. To make the projects more valuable, each student or team typed a description sheet which was attached to the project. These sheets provided all the information as to how and why the projects were constructed. The sheet contained the following information: 1) project name, 2) grade level for which it was intended, 3) objective of project (what is to be taught), 4) method (step by step construction details), 5) cost of material, and 6) common sources of material. Each description sheet was mimeographed and made available to each student in class and to others who wished such copies.

The exhibit included a wide range of geographic subjects. The list below is taken from a file of over 40 different projects prospective teachers have felt were worthwhile to construct for use in elementary classrooms.

1. *A Trip to Yellowstone National Park.* This project included maps showing location of the park, the roads in the park and important scenic features. Actual photographs were included and a small model of a scene in the park was constructed. Estimated cost—$3.00.
2. *Jigsaw Puzzle of the United States.* This project used ¼ inch plyboard to which a map was glued then cut out with jigsaw. Estimated cost—$7.75.
3. *A Corn Belt Farm.* An aerial photograph was obtained from the Department of

Conservation of a corn belt farm and from it a large layout was made on poster paper. Then the layout was painted to look as near like the aerial photograph as possible. Small models of buildings were added, and sample of crops grown were displayed in fields where they were grown. Estimated cost—$1.00.

4. *Cityville.* A map of the city was secured from the city engineer and reproduced on poster board (elementary children could use the map directly). Then leading industries and points of interest were photographed. Photographs were glued to the margin and by use of numbers and string their location was indicated. Estimated cost—$4.00.
5. *Lancaster County.* This project took advantage of student interest in television. A box was made to simulate a television set and then scenes from Lancaster County were drawn or glued on a roll of brown paper, so they would be rolled past the "television screen." Estimated cost—$4.00.
6. *Products Map of Pennsylvania.* A map of Pennsylvania was glued to a thin sheet of metal. Samples of major products were attached to small magnets then students could place products on the map. Estimated cost—$3.00.
7. *Relief Models.* Models of several portions of earth surface were constructed of salt, flour and water. After construction, elevations were depicted by painting. Estimated cost—$.50 to $1.00.
8. *Cities of Pennsylvania.* An upright map of the state showing larger cities and characteristic articles of each city, on a table below, connected by means of a string. Estimated cost—$1.00.
9. *Fun Places.* A map of the United States showing the outstanding recreational areas was so wired that, when a pointer touched the correct location on the map and on a dot by its name in the border, a buzzer sounded. Estimated cost—$5.00.
10. *Forests of our State.* A map showing location of all forests land accompanied by pictures of all major forests, a box of sample squares showing how each wood looked and felt, and a group of pictures depicting the use of each tree. Estimated cost—$1.00.
11. *Cross-section of Bituminous Coal Seam.* Model was made by painting earth layers on side of a cardboard box. Earth forms were made on the top of the box with paper and wheat paste. Estimated cost—$.50.
12. *Soil Profile.* This project used a box with a glass in one end. The box was then filled to show top soil, sub soil and sub strata of earth's crust. Estimated cost—less than $1.00.
13. *Local Relief Model.* A topographic sheet of the local area was enlarged using an opaque projector. Each contour line was traced on corrugated cardboard and cut out. These cutouts were assembled in their proper place and glued. The model was covered with plastic clay to make it realistic. High school students might paint on roads, towns, etc.

Summary

Project assignment and evaluation will be a problem for each instructor to solve to his own satisfaction. Assignments may all be made at same time or spread over entire semester. Both methods have their merits. The former is favored by the author since all will be working together and it can be done in classroom with instructor present.

The logical question by the skeptic is, "Is it worthwhile to do

elementary school projects in a college classroom?" The opinion of three college classes who have tried it were unanimously in favor of more of it. All of their reasons differed but essentially they agreed it provided a chance to be practical as well as theoretical.

LET'S GO FISHING—PERHAPS WE WILL CATCH A "GEOGRAPHY EEL"

MRS. LAURA VON ASCHWEGE
Rural School District No. 19, Howard County, Nebraska

Geography can be fun. I have made a fishing game that adds a little zest to learning the states and their capitals or products, industries, etc.; countries and their largest city or a variance of facts. The fish are made from light-weight cardboard or construction paper. A steel paper clip is fastened on the nose of each fish. On the back of the fish may be printed the name of one of the 48 states or countries. The child catches a fish by means of a magnet fastened to the end of a "fishing pole," reads the state on the back, and then gives the capital, an item of interest concerning the state or country its location, or important products, or whatever information the teacher wishes to emphasize.

The child keeps the fish if he is able to answer correctly, if not he must return the fish to the "pond." I have found that about the second or third time a youngster has to throw all of his catch back in the pond, he usually does something about learning the capitals, or a principal city, or whatever knowledge it is he has missed.

There are many variations in kinds of information and games that may be played with the fish. It is a good pastime for children in the rural school on rainy days when indoor games are necessitated, and fortunately it promotes learning at the same time.

1959 NCGE Officers

President: Dr. Adelbert K. Botts, Trenton State College, Trenton, New Jersey
First Vice-President: Dr. John W. Morris, University of Oklahoma, Norman, Oklahoma.
Second Vice-President: Dr. Lyle Fletcher, Bowling Green State University, Bowling Green, Ohio.
Secretary: Dr. Lorrin G. Kennamer, Jr., University of Texas, Austin.

MOON MAPS

CATHERINE I. BAHN
Library of Congress

Teachers of mathematical geography may be interested in three new moon maps which are relatively inexpensive and reflect the current interest.

"*The Moon*," a photo map, published by Rand McNally and Company, Box 7600, Chicago 80, Illinois, is based on photographs taken at the Lick Observatory and the Mount Wilson and Palomar Observatories to assure complete accuracy. The map gives a comprehensive view of the moon's surface. It shows and names all important craters, mountains, oceans and valleys in two quarter views. These comprise the 59 per cent of the moon's surface visible from the earth. Highlighted shadows on the quarter views make the surface clearly discernible. In addition, side panels provide detailed enlargement of some of the major features of the moon. The planets are shown on the verso of this map which is $46\frac{1}{2} \times 26$ inches and sells for $1.00.

The American Map Company's International Geophysical Year "*Solar System*," measuring 50×38 inches, includes a 16×16 inch inset "Map of the Moon" in black and white. Aerial photos of the moon, the sun, and the planets (taken at the Lick, Wilson and Yerkes observatories), and an artist's conception of Mars, Earth and the Midnight Sun with pertinent statistics are also shown on the sheet. It may be purchased for twenty nine cents from the American Map Co., Inc., 16 East 42nd St., New York 17, N. Y.

The "Lunar Map" in two colors measures 11×11 inches, costs twenty-five cents, and is published by the Sky Publishing Corporation, Harvard Observatory, Cambridge 38, Massachusetts. This map of the moon is based on the original drawing by Karen Andel, published in 1926 as *Mappa Selenographica*. A grid of selenographic coordinates has been superimposed. The mountains, valleys and lunar craters named are keyed to a locating table.

Should a rocket succeed in hitting the moon target, the point of impact could readily be traced on any of these maps.

Convention City for 1959

The 45th Annual Meeting of the National Council for Geographic Education will be held at the Sheraton-Cadillac Hotel, Detroit, Michigan, November 27 and 28, 1959. Program plans are now underway.

This book is a carefully organized analysis of the nature of political control throughout the world. The many factors which shape a country's internal administrative structure, the location of its boundaries, and the history of its relationships with other countries are examined from a geographical point of view. The author also discusses the effects of political control on various non-political features, as well as the pressures which exist for changes in this control.

:RNS WORLD POLITICAL PATTE
NS **WORLD** POLITICAL PATTERI
WORLD POLITICAL PATTERNS
WORLD **POLITICAL PATTERNS**
)RLD POLITICAL PATTERNS W(

by Lewis M. Alexander • Harpur College

World Political Patterns is designed to serve two purposes: as an introduction to political geography and as a presentation of the geographic basis of international affairs. In addition to its use as a political geography text, the book may well be considered also by those colleges offering courses in general geography to prospective teachers. The approach is regional, and the most recent political changes are noted. There are valuable statistical data on political units, territorial changes, cultural groups, and economic facts, and the latest population figures are included. A special feature of the book are the 100 maps, which have been expressly drawn for illustrative value. A bibliography appears at the end of each chapter.

November 1957 • 516 pages • 6 x 9 inches • $6.50 list

College Department

RAND McNALLY & COMPANY • P. O. Box 7600 • Chicago 80, Illinois

READINGS IN RUSSIAN HISTORY

Third Edition **By Warren B. Walsh**

The new edition containing documents issued during 1958 presents a well-organized story of the Russian people, before and since the development of the Soviet state. It emphasizes social and economic aspects as well as political and intellectual history. The wealth of materials, mostly from primary sources, is essential reading for an understanding of modern Soviet Russia.

750 pp. $7.50

HOW STRONG IS RUSSIA?

A Geographic Appraisal **By George B. Cressey**

One of America's outstanding geographers writes about geographic factors as they affect the world position of the Soviet Union. Can be read with pleasure by any geographer, teacher or citizen who wishes an overview of the Soviet Union. 146 pp. $3.00

THE POPULATION PROBLEM OF SOUTHERN ITALY

An Essay in Social Geography **By Robert E. Dickinson**

A geographical study of unemployment and poverty in one of the principal "underdeveloped areas" in the Western world. The essay deals with agricultural production and the labor force. These are preceded by an introductory survey to the background of the problem, and concluded with an evaluation of the current trends of resource development in the area in the light of the geographic findings.

116 pp. $3.00

SU SYRACUSE UNIVERSITY PRESS

SEND FOR BREWSTER HOUSE BOOK NEWS

SYRACUSE UNIVERSITY PRESS

Brewster House

SYRACUSE 10, N. Y.

WEATHER INSTRUMENTS

Amateur and Weather Bureau Types

Complete installations for schools from $49.50 to $2750.00

Write for catalog

SCIENCE ASSOCIATES

Instruments/Weather • Astronomy/Teaching Aids

194 NASSAU STREET P.O. BOX 216 PRINCETON, N.J.

INDEX to the JOURNAL of GEOGRAPHY

Type is now being set on the INDEX to the JOURNAL OF GEOGRAPHY (1922-1956). This INDEX will make a book of approximately 270 pages. It is proposed that the hard back copies of this publication sell for $5.00 each and that paper back copies be sold to non-members for $4.00 each. Members of the organization can purchase the INDEX for $3.00 per copy, or at only a little above the cost of publication.

Here it is! CRAM'S *New*

revolutionary rugged

GLOBE BALL

WEIGHS A LITTLE OVER A POUND—YET WILL HOLD UP OVER A TON OF WEIGHT.

"TUFFY" — Cram's New Globe Ball

Science and Research have teamed together to produce this remarkable world globe. We don't mean just "NEW"—it is completely revolutionary . . .

No longer is it necessary to treat your globe like fine china.

Indestructible for classroom uses and hazards. Eliminates teacher's fear of breakage, when handled by students.

• •

This new globe ball may be bounced, dropped or hammered without ill effects.

Fill out the coupon below—see for yourself what this NEW Cram World Globe can do for more effective teaching and classroom uses. This new 12" globe has strength and durability never before dreamed possible. Available with BEGINNERS, POLITICAL or PHYSICAL-POLITICAL Map.

GEORGE F. CRAM CO.
730 E. Washington St.
Indianapolis 7, Ind.

☐ Have Cram Man Call

☐ Send Descriptive Literature

Name_____ Title_____

Name of School_____

City_____ State_____

SOUTHERN CALIFORNIA
SUMMER SESSIONS

June 22 to August 1;
August 3 to August 29

Study with a distinguished faculty. Graduate and undergraduate courses, offered in all fields, lead toward degrees, teaching credentials, and teachers' "points" for professional advancement. Sessions include special conferences and workshops. *Enjoy a delightful summer climate.*

For Bulletin SS-25 write to:

Dean of Summer Session
UNIVERSITY OF SOUTHERN CALIFORNIA
Los Angeles 7

GEOGRAPHICAL MATERIALS RECEIVED

Clyde F. Kohn. **The United States and the World Today.** Rand McNally & Company, Chicago, Illinois. 1957. 254 pages. $3.50.

Henry Field. **Body-Marking in Southwestern Asia.** Peabody Museum, Cambridge, Massachusetts. 1958. xiii and 162 pages with 37 pages of figures, references, appendices, and table of contents.

Sverre Petterssen. **Introduction to Meteorology.** McGraw-Hill Book Company. 330 West 42nd Street, New York 36. 1958. Second Edition. ix and 327 pages and index.

Freda M. Buchanan. **The Land and People of Scotland.** J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania. 1958. 128 pages with table of contents and index. $2.95.

Nicholas Guppy. **Wai-Wai Through the Forests North of the Amazon.** E. P. Dutton & Company, 300 Fourth Avenue, New York 10, New York. 1958. x and 373 pages with index and glossary, table of contents, and illustrations. $5.95.

Max Wykes-Joyce. **7000 Years of Pottery and Porcelain.** Philosophical Library, Inc., 15 East 40th Street, New York 16. 1958. 276 pages with contents, bibliography, index, and illustrations. $12.00.

Andre Guilcher. **Coastal and Submarine Morphology.** John Wiley & Sons, Inc. 601 West 26th Street, New York 1. 1958. 274 pages with index, table of contents, and illustrations. $6.50.

Virginia Thompson and Richard Adoliff. **French West Africa.** Stanford University Press, Stanford, California. 1958. 626 pages with contents, illustrations, bibliography, and index. $8.50.

Malcolm Davies. **Geographic Dictionary.** Baltimore Public Schools, Baltimore 18, Maryland. 1958. 128 pages with index and illustrations. $1.00.

William Spencer. **The Land and People of Turkey.** J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania. 1958. 128 pages with index, contents, and illustrations. $2.95.

Jen-Hu-Chang. **Ground Temperature.** 2 Volumes. Blue Hill Meteorological Observatory, Harvard University, Milton 86, Massachusetts. 1958. Volume I, 300 pages, contents, and illustrations. Volume II, 196 pages and contents. No price.

Joel Martin Halpern. **A Serbian Village.** Columbia University Press, New York; New York. 1958. xviii and 325 pages with index, bibliography, contents, maps, and illustrations. $6.00.

Jack L. Hough. **Geology of the Great Lakes.** University of Illinois Press, Urbana, Illinois. 1958. xviii and 313 pages with illustrations, bibliography, index, and table of contents. $8.50.

J. Stanley Clark. **The Oil Century.** University of Oklahoma Press, Norman. 1958. xxii and 280 pages with index, bibliography, appendix, illustrations, and table of contents. $3.95.

Walter A. Wittich and Gertie Hanson Halsted (Editors). **Educators Guide to Free Tapes, Scripts, and Transcriptions.** 1959. Educators Progress Service, Randolph, Wisconsin. xiii and 229 pages with table of contents, title index, subject index, source and availability index. $5.75.

SUMMER FIELD COURSE

in the beautiful St. Lawrence River Valley

offered by

SYRACUSE UNIVERSITY

June 15-July 17, 1959

Directors: John H. Thompson, Syracuse University
John E. Brush, Rutgers University

Training in geographic field techniques in Potsdam, New York area—20 miles from St. Lawrence River, its seaway and power projects; 50 miles from the heart of the Adirondack region. An ideal location for geographic field work.

Two levels of study: Elementary work is open to undergraduates and others with no previous experience.
Advanced work includes independent study of special problems and may serve as basis for Masters of Arts theses.

Instruction in: Elementary mapping (by plane table and pacing, on air photographs), field interviewing, aspects of physical geography, human settlement and land use.

Approximate cost:

Tuition and General Student Fee (6 credit hours)	$192.00
Local transportation and supplies	40.00
Board and lodging	135.00
Total	$367.00

For additional information write:

DR. JOHN H. THOMPSON
Box 317, Department of Geography
Syracuse University, Syracuse 10, New York

Geography for Today's World

BARROWS, PARKER, SORENSEN

A new program that builds basic understandings of peoples, places, and ways of living in our modern global world.

Our Big World
Grade 4

Old World Lands
Grade 6

The American Continents
Grade 5

A World View
Grade 7

Silver Burdett Company

MORRISTOWN
NEW JERSEY

Chicago San Francisco Dallas Atlanta

GEOGRAPHICAL MATERIALS RECEIVED

Richard M. Highsmith, Jr. **Atlas of Oregon Agriculture.** Agricultural Experiment Station, Oregon State College, Corvallis. 1958. 44 pages with table of contents, maps and graphs. $1.00.

George W. Hoffman and Viola Hoffman. **Austria.** The Fideler Company, Grand Rapids, Michigan. 1958. 160 pages with illustrations, glossary, index, and table of contents.

Edgar B. Schieldrop. **The Air.** Philosophical Library, Inc., 15 East 40th Street, New York 16. 1958. 256 pages with index, illustrations, and table of contents. $12.00.

Tom Slick. **Permanent Peace.** Prentice-Hall, Inc., 70 Fifth Avenue, New York 11. 1958. x and 181 pages with index, appendix, and table of contents. $2.95.

Ross N. Pearson. **Geography for the High Schools of Michigan.** University of Michigan, Department of Geography, Ann Arbor, Michigan. 1958. 65 pages with table of contents. $1.00.

David Lowenthal. **George Perkins Marsh: Versatile Vermonter.** Columbia University Press, 2960 Broadway, New York 27, New York. 1958. xii and 442 pages with illustrations, bibliography, index, and table of contents. 6.50.

Laurence M. Gould. **The Polar Regions in their Relation to Human Affairs.** American Geographical Society, Broadway at 156th Street, New York 32, New York. 1958. 54 pages with illustrations, maps, and appendix. $3.50.

W. G. F. Jackson. **Seven Roads to Moscow.** Philosophical Library, 15 East 40th Street, New York 16, New York. 1958. x and 334 pages with index, map, illustrations, and table of contents. $7.50.

Louis M. Bloch, Jr., Editor. **America 1667.** Bloch and Company, 1010 Euclid Bldg., Room 402, Cleveland 15, Ohio. 1959. 61 pages with index, table of contents, and illustrations. $3.95.

Armand Spitz and Frank Gaynor. **Dictionary of Astronomy and Astronautics.** Philosophical Library, Inc., 15 East 40th Street, New York 16, New York. 1959. vi and 439 pages with illustrations. $6.00.

L. W. H. Hull. **History and Philosophy of Science.** Longmans Green & Co., Inc., 119 West 40th Street, New York 18, New York. 1959. viii and 340 pages with index, table of contents, and illustrations. $5.00.

Olin T. Mouzon. **International Resources and National Policy.** Harper & Brothers, 49 East 33rd Street, New York 16, New York. 1959. xiv and 752 pages with bibliography, index, table of contents, and illustrations. $7.50.

John R. Borchert. **Minnesota's Changing Geography.** University of Minnesota Press, Minneapolis 14, Minnesota. 1959. vi and 191 pages with index, table of contents, and illustrations. $4.25 (trade discount), $3.00 (special school discount).

Norman J. G. Pounds. **The Upper Silesian Industrial Region.** Slavic and East European Series, Rayl House, Indiana University, Bloomington, Indiana. 1958. xv and 242 pages with appendix, index, table of contents, and illustrations.

Henry B. Lent. **Men At Work On the West Coast.** G. P. Putnam's Sons, 210 Madison Avenue, New York, New York. 1959. 128 pages and index, table of contents, and illustrations. $3.00.

John C. Caldwell and Elsie F. Caldwell. **Let's Visit Korea.** The John Day Company, 62 West 45th Street, New York 36, New York. 1959. 95 pages with index, table of contents, and illustrations. $2.95.

John C. Caldwell. **Let's Visit the Middle East.** The John Day Company, 62 West 45th Street, New York 36, New York. 1958. 96 pages with index, table of contents, and illustrations. $2.95.

Bill Brown. **People of the Many Islands.** Coward-McCann, Inc., New York. New York. 1958. 94 pages with index, table of contents, and illustrations. $2.50.

Charles R. Joy. **Light in the Dark Forest.** Coward-McCann, Inc., New York, New York. 1959. 96 pages with index, table of contents, and illustrations. $2.50.

Jean Fritz. **The Animals of Doctor Schweitzer.** Coward-McCann, Inc., New York, New York. 1958. illustrations. $3.00.

SLATED GLOBES and MAPS

Cartocraft Project-Problem Slated Outline

20" *Activity Globes* **16"**

SURFACED FOR CHALK WRITING

For the most elementary demonstrations for beginners. The true shape of the earth is round. Cardinal directions are not read to right, left, top, or bottom. North and south are read along a meridian. All meridians converge at the poles. East and west are read along a parallel. All parallels are parallel.

Slated outline globes and maps are most advantageous in presenting these concepts. Their usefulness continues at all levels of teaching and learning.

The globes are of metal with excellent chalk-writing surface. Land areas are black with yellow outline, water blue. The globe rotates on its axis in a meridian which is adjustable to any desired inclination.

Cartocraft Slated Outline Maps

PRINTED ON SLATED CLOTH, SURFACED FOR CHALK WRITING

"BLUE SEAS" SERIES. Maps show land areas in black with yellow outline, water areas in blue. The series consists of "CS" maps, size 64" x 50", "CS Combination" maps, 64" x 50" with maps on both sides, and "CJ" maps, 44" x 50".

RAVENSWOOD "ONE PRINT" SERIES. Yellow outline maps printed on black slated cloth. "RS" maps 64" x 50", and "RJ" maps 44" x 50".

For list of maps with prices write for illustrated circular G1c.

DENOYER-GEPPERT CO.

Maps—Globes—Atlases—Charts

5235 Ravenswood Avenue **Chicago 40, Illinois**

PUBLICATIONS

A new, challenging and realistic presentation of political geography—and an introduction to Asia via its geographic pattern

GEOGRAPHY AND WORLD POLITICS

by LUCILE CARLSON, Western Reserve University

Lucile Carlson's new book, Geography and World Politics, offers a challenging presentation of the ever-changing pattern of the geopolitical world.

More than a regional geography book, its dual approach (regional-principles) is based on the ideological power blocs into which the world is now broken—Western, Communist, and Neutral. The various aspects of each of the national entities are dealt with individually, but always with the international view in mind.

Areal differentials are brought out but always within the larger setting of, first, the associated blocs of states, and secondly, the entire world. For each state, those aspects that weigh most heavily in the give and take of geopolitical relationships are given the emphasis.

Beautiful, graphic maps have been prepared by the outstanding cartographer, Allan K. Philbrick of Michigan State University. As a special feature new to texts in political geography, vivid illustrations in the form of photographs have also been provided.

608 pp. Pub. 1958 Text price $8.75

THE PATTERN OF ASIA

Edited by NORTON GINSBURG, University of Chicago, with contributions by JOHN BRUSH, Rutgers University, JOHN RANDALL, Ohio State University, HEROLD WIENS, Yale University, and SHANNON McCUNE, University of Massachusetts. Maps by Allen Philbrick, *Michigan State University*

Unique in its approach, this new geography text presents your students with the economic and political development problems of Asia as they are related to the dynamics of Asian geography.

Covering the entire continent and its two-thirds of mankind, the text deals with East Asia, Southeast Asia (including parts that have been neglected to date), South Asia, Southwest Asia, and the Soviet Union. An abundance of half-page and full-page photographs, accompanied by detailed descriptive legends, serve to emphasize points made within the written material. The cartographic excellence of the book facilitates a sound understanding of the subject matter. Land-use maps showing railroads, industries, etc., are included for each of the countries concerned.

THE PATTERN OF ASIA is highly informative, up-to-date, interpretive and expert. Many of its maps are original contributions to knowledge, and its photographs serve as tie-ins with the text material.

929 pp. Pub. 1958 Text price $8.75

To receive approval copies promptly, write: Box 903

PRENTICE-HALL, Inc.

Englewood Cliffs, New Jersey

Mention the JOURNAL—It Assures Service